DOCUMENT RESUME

ED 238 342 HE 016 870

AUTHOR Gross, Linda; Heller, Barbara R.
TITLE An Historical Study of the Correlates of Cooperative Education Program Growth, Stability, and Longevity.
INSTITUTION City Univ. of New York, N.Y. Inst. for Research and Development in Occupational Education.
SPONS AGENCY Office for Postsecondary Education (ED), Washington, DC. Cooperative Education Program.
REPORT NO CASE-05-83
PUB DATE Sep 83
NOTE 68p.
AVAILABLE FROM City University of New York, Center for Advanced Study in Education, Graduate Center, 33 West 42 Street, New York, NY 10036.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Community Characteristics; *Cooperative Education; *Enrollment Trends; Federal Aid; Financial Support; Higher Education; Institutional Characteristics; Questionnaires; School Surveys; Two Year Colleges
IDENTIFIERS *Program Discontinuance

ABSTRACT

Cooperative education programs that operated in 1974-1975 were identified and their status by 1981-1982 was investigated. General characteristics of program growth that might indicate the structural and organizational correlates of longevity and stability were assessed. Attention was directed to two- and four-year colleges that were not federally funded, as well as to institutions whose cooperative education programs were federally supported. Data from a 1975 directory of grant recipients were obtained for 860 programs. Based on an 8-year profile of reported student enrollment, these programs were divided into five growth groups (discontinued, increased, decreased, fluctuating, and stable). A second research agenda was to determine institutional characteristics, the history and nature of cooperative education, and general information about the community. Questionnaires were sent to 612 institutions still offering cooperative education in 1982 as well as to 296 colleges with discontinued programs, and a total of 312 usable responses were obtained. Finally, data were collected on the kind of award, the years involved, and the dollar amounts. It was found that 34.4 percent of the programs that had been operating in 1974-1975 had been discontinued by 1982-1983. A questionnaire is appended. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED238342

AN HISTORICAL STUDY OF THE CORRELATES OF COOPERATIVE EDUCATION PROGRAM GROWTH, STABILITY, AND LONGEVITY

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

LINDA GROSS
BARBARA R. HELLER

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY Inst. for Res & Dev. in Occupational Educ. Center for Advanced ~~Study in Educ. CUNY~~

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

HE016870

Institute for Research and Development in Occupational Education
Center for Advanced Study in Education
The Graduate School and University Center of the City University of New York

CASE 05-83
SEPTEMBER 1983

THE STUDY REPORTED ON HEREIN WAS PERFORMED UNDER USED No. 055 CH 20002

FOREWORD

Although cooperative education programs received much attention in the 1960s, and benefitted even more through increased federal assistance in the 1970s, the curtailment of federal funds in the 1980s portends an uncertain future. In addition to a diminution of federal funding, there has also been the negative effect of an ailing economy on local education budgets generally, and on special programs and services specifically.

In recognition of minimal funding possibly limiting new cooperative education programs, and even limiting the expansion of existing ones (or possibly reducing them), a grant was received to study characteristics of earlier programs with a view toward determining their relationship to longevity and stability. Essentially, the current status of programs that were operating in 1974-75 was investigated to provide clues about variables which are related to development, growth, or attrition of co-op programs.

This report reflects data obtained from over 900 postsecondary institutions offering cooperative education programs, grouped into varied growth categories. As will be seen, although data-gathering was affected by underrepresented respondents of discontinued programs and overrepresented respondents of continued programs, much was learned regarding characteristics of longevity and growth. Readers are invited to share their views, experiences, assessments, and/or comments with the Institute in the interest of enhanced understanding.

Lee Cohen, Ph.D.
Director, IRDOE

ACKNOWLEDGEMENTS

Few, if any, research studies are completed by the listed authors alone. This one, too, was the product of the work, advice, and support of several people.

In particular, we would like to thank Dr. James W. Wilson, Director of the Cooperative Education Research Center at Northeastern University. Jim was the source for much of the data that formed the basis of this investigation: the "Co-op Directory", prepared annually by the Center; and lists of names and addresses of current directors of cooperative education programs. Dr. Wilson's substantive input was also of considerable benefit.

Ms. Arlene Vogl Lowenstein was responsible for much of the data analysis, while Mr. Charles Birnbaum did most of the tedious hand tabulations. Their interest in the study provided the impetus for the many, many hours they were involved in transcribing, adding, and interpreting information from directories and questionnaires.

We are also grateful for the administrative support we received from the Center for Advanced Study in Education/IRDOE and for Louise Ferguson and Lucille Mascetti's secretarial help.

Finally, we are truly appreciative of the hundreds of people on many different college campuses who took the time to complete our questionnaire. We feel that this is compelling evidence of their interest in cooperative education and, specifically, of their desire to understand it in broad scope. We hope that this document serves both to satisfy and to whet their appetite.

Linda Gross
Barbara R. Heller,
Project Director

TABLE OF CONTENTS

	Page
FOREWORD	i
ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	v
INTRODUCTION	1
METHODOLOGY	4
Directory Data	4
Questionnaire Data	6
Federal Co-op Grant Recipients	7
RESULTS	7
Growth in Co-op Programs, 1974-75 through 1981-82	7
Directory Data	8
Comparison of Questionnaire and Directory Data	11
INSTITUTIONAL CHARACTERISTICS	14
General Variables	14
Size/Enrollment Variables	16
Administrative Variables	18
Importance of Institutional Variables to Co-op Growth	19
Summary	21
PROGRAMMATIC CHARACTERISTICS	22
Size and Scope of Co-op Program	22
Structure of Co-op Programs	26
Co-op Program Leadership	29
Co-op Staffing	31
Importance of Programmatic Variables to Co-op Growth	34
Summary	37
EXTERNAL FUNDING VARIABLES	39
Funds for Initiating a Co-op Program	39
Federal Administration Grants	39
Federal Training, Demonstration, and Research Grants	42
Institutional Reports on Funding	42
Importance of External Support	43
Summary	44

Page

COMMUNITY VARIABLES..... 44

Community Characteristics..... 44
Importance of Community Variables..... 47
Summary..... 48

SUMMARY AND CONCLUSIONS..... 48

APPENDIX A: Survey Questionnaire..... A1

LIST OF TABLES

No.		Page
1	Number and Percentage of Co-op Programs and Mean Co-op Enrollment in 1974-75 and Most Recent Year, By Growth Category	9
2	Percentage of Co-op Programs Experiencing Single-Year Enrollment Fluctuations, By Growth Category	11
3	Number and Proportion of Questionnaire Respondents in Each Growth Category, and Average Reported Co-op Enrollment in Most Recent Year of Operation	12
4	General Institutional Characteristics, By Co-op Growth Category	15
5	Institutional Enrollment Characteristics, By Co-op Growth Category	17
6	Questionnaire Respondents' Average Rating of Importance of Institutional Characteristics to the Growth of a Co-op Program, By Growth Category	20
7	Size and Scope of Co-op Programs, By Co-op Growth Category	23
8	Proportion of Programs Offering Co-op in Each Major During at Least Half of the Operational Years Between 1974-75 and 1981-82	26
9	Selected Co-op Programs' Structural Characteristics During Most Operational Years from 1974-75 to 1981-82, By Co-op Growth Category	27
10	Co-op Leadership During Operational Years from 1974-75 to 1981-82, By Co-op Growth Category	30
11	Co-op Staffing Characteristics During All or Most Operational Years from 1974-85, By Co-op Growth Category	32
12	Questionnaire Respondents' Average Rating of Programmatic Characteristics' Importance to the Growth of a Co-op Program, By Growth Category	35
13	Percentage of Programs Receiving Federal Co-op Administration Awards During 1974-75 through 1981-82, By Growth Category	40
14	Proportion of Programs that Received Federal Co-op Administration Awards Between 1974-75 and 1981-82, By Last Year Award Was Obtained	41
15	Community Characteristics During Most Operational Years from 1974-75 to 1981-82, By Growth Category	45
16	Questionnaire Respondents' Average Rating of Community Characteristics' Importance to the Growth of a Co-op Program, By Growth Category	47

AN HISTORICAL STUDY OF THE CORRELATES OF COOPERATIVE EDUCATION PROGRAM GROWTH, STABILITY, AND LONGEVITY

This report describes a research study, conducted in 1982-83 with a Cooperative Education Program grant from the U.S. Department of Education[1], to investigate the current status of cooperative education programs that were operating in 1974-75. In anticipation that Federal funding may no longer by readily available as an impetus to the initiation and/or expansion of cooperative education program offerings, this study examined general characteristics of program growth in order to provide clues about the structural and organizational correlates of longevity and stability.

INTRODUCTION

Public and private institutions of higher education are experiencing a growing sense of crisis as the Federal government withdraws financial support from many programs. While government spending as a share of the GNP almost doubled during the 1930's, and has almost redoubled since, such expenditures are now on the decline. Since 1975, growth in no level of government has outdistanced the increase in GNP. The President's "Program for Economic Recovery" has heightened this trend, curtailing expenditures in relation to the GNP, with Federal funding reduced in virtually every area of domestic activity.

Reduced Federal contributions to education have been accompanied by other pressures to reduce education costs. First, there is an increasingly frugal electorate which has promoted fiscal containment measures at the subnational government level; this makes state and local municipalities (as well as local school districts) unable to compensate for losses of Federal monies. In addition, inflation and slowed economic growth, coupled with important demographic changes, has led to declining school enrollments, with concommitant decreases in revenues and in rising costs for educational goods and services.

[1]Project No. 055 CH 20002

There are a number of general strategies typically adopted by organizations to deal with gaps between revenues and expenditures: a redefinition of goals, scale-downs or modifications in the level and/or mix of progam services, personnel cutbacks, the development of new sources of support, and the improvement of program efficiency. These, in turn, may call for the consolidation or reorganization of services, the introduction of new management systems or technology, and/or taking advantage of the economies of scale (e.g., increasing the number of students served relative to the level of fixed costs).

Federal funding and the growth of cooperative education programs in American colleges and universities are inextricably linked. Although the first university program started in 1906 without Federal intervention, co-op grew slowly and for the next few decades remained modest: in 1929, there were 10 colleges/universities offering co-op and the number increased to only 65 during the next three to four decades. It wasn't until the 1960's as a result of several factors--a 1957 conference sponsored by the Thomas Alva Edison Foundation with the assistance of Charles Kettering of the General Motors Corporation, the subsequent establishment of the National Commission for Cooperative Education, and the passage of Title IV-D of the Higher Education Act of 1965--that cooperative education became implemented on a wide scale and hailed as an important learning strategy. Because of the activities of the late 1950's and early 1960's, by 1970, the number of colleges had tripled, with about 250 institutions offering co-op education programs.

The 1970's witnessed a five-fold increase in participating institutions, stimulated largely by the 1972 amendments of the Higher Education Act and by the 1976 amendments, in which cooperative education was singled out in a new title, Title VIII. By 1980, there were 1,028 programs in operation in two-year and four-year colleges and universities, involving approximately 200,000 students from a wide range of disciplines.[1]

Although almost eight out of ten of these co-op programs were developed or expanded because of the direct intervention of the Federal government, a sizable number of schools currently offering co-op programs

---

[1]Personal Communication, Cooperative Education Research Center, Northeastern University.

have been able to do so without reliance on Federal support. Nevertheless, through its various legislative actions, the government has been largely responsible for promoting co-op in the United States by providing direct support to institutions. The findings of the AMS study indicate that "the Title IV-D program has had an extremely significant impact on the growth of cooperative education acting as a stimulus to, and support of new programs.... The Federal monies were needed, and ... the recent surge in the number of schools offering co-op could not have come about without Federal involvement."[1]

A sharp Federal cutback, withdrawal, or total curtailment of co-op support can be expected to have dramatic effects. Federal stringency presents both a challenge and an incentive to improve program efficiency and excellence. In order to plan a new program or to adjust an operating one to the anticipated low or nonexistent future funding levels--a situation faced by all schools who started co-op under an administrative grant--educators need information that will help them assess their goals and modify their operating specifications.

Understanding the variables that correlate with growth can assist co-op educators in identifying goals, objectives, and program parameters that promote longevity. In anticipation that Federal support of cooperative education will continue to be in danger, it seems appropriate to determine how essential this support has actually been to programs and whether other factors are as--or possibly more--important to success.

This study examines the current status of co-op programs that were operating in 1974-75 for clues about the structural and organizational determinants of program well-being. It includes cases involving institutions that were not Federally supported (either because the grant period expired or because the program never had this form of support) as well as programs that were operating with Federal monies (first Title IV-D and then Title VIII--and in various years of eligibility). It seeks to answer two major questions:

---

[1] Applied Management Services, Inc. (S. Frankel, Project Director), Cooperative Education-A National Assessment, Silver Springs: Maryland, July 1975-November 1977.

- What has been the history (since 1974) of cooperative education programs in institutions of higher education nationwide; and

- What variables are related to (i.e., facilitate) the development, growth, or demise of co-op programs?

METHODOLOGY

The target population for this study consisted of all two- and four-year institutions in the continental United States that had operative cooperative education programs in the 1974-75 academic year, regardless of the current status of these programs. The 1975 "cooperative education directory" identified 908 such institutions.[1]

Data about the co-op programs at these institutions was collected from three sources. The 1975 directory, and the 1976 through 1982 updates, provided information pertaining to institutional and programmatic characteristics. These data were supplemented by questionnaire and by listings of Federal co-op grant recipients.

DIRECTORY DATA

The co-op directories, published annually, were used as the basic source of historical data from 1975 through 1982.[2] Each directory lists the colleges offering co-op in a given year, as well as other information, such as size of enrollments and curriculum that are involved in cooperative education. Data was recorded from successive directories, yielding an eight-year profile of each program.

---

[1]The Cooperative Education Research Center, Undergraduate Programs of Cooperative Education in the United States and Canada, Third edition, prepared for the National Commission for Cooperative Education, Boston, Mass., July 1975.

The 1975 directory actually listed 932 qualifying institutions, but for 24, we were unable to locate current addresses, excluding them from further consideration.

[2]The Cooperative Education Research Center, op cit, 3rd through 10th editions.

Directory data, collected by the Cooperative Education Research Center at Northeastern University, is based largely on the reports of individual colleges and universities. Since the directory seeks to be as inclusive as possible--to list all schools possibly offering cooperative education programs--a college failing to respond to the Center's annual update requests is included in the new edition nevertheless, with exactly the same program characteristics as those listed previously. As an example, an institution with reported enrollment of "16" for all eight years of this study may illustrate such a case.

Several of these most probable instances of invalid data were removed from the sample. Forty-six of the 908 profiles showed identical year-to-year figures, and two showed such bizarre fluctuations, that we assumed either persistent nonresponse (former cases) or compilation errors (latter cases). It is possible that we may have slightly underestimated the number of "stable" programs in the final sample by eliminating those few programs where there was indeed no change in enrollment during the eight years under study.

An additional problem with the directory data pertains to programs that were discontinued after 1974-75. There were 296 such programs, for many of which directory data is incomplete. Thus, information about this growth classification group is based on data for only about 82 percent of the programs in this category. In contrast, the data for colleges that had an operating program in 1982--regardless of the growth or decline pattern--was much more complete.

There is no certain way of knowing whether any particular institution responded to the request for directory data accurately, and for each year. We made the assumption that they did, keeping in the sample institutions with virtually identical characteristics listed for several, but not for all eight years.

The final sample was comprised of 860 programs, representing approximately 95 percent of the cooperative education programs described in the 1975 directory. Based on an eight-year profile of reported student enrollment, these programs were divided into five growth groups (using criteria described in the next section of the report). No test of statistical significance was applied to the directory data variables because almost the entire

universe was included in the calculations; thus, assuming reasonable accuracy of the directory data (within the limitations noted), virtually any difference among the groups on any variable indicates a real difference.

QUESTIONNAIRE DATA

A six-page questionnaire was developed for this study[1] and included items relating to the institutions' characteristics, the history and nature of cooperative education, and general information about the community. Also included were questions in which respondents were asked to indicate the importance of specific variables to the probable success of a co-op program.

For the 612 institutions that were still offering co-op in 1982, the questionnaire was sent to the co-op director/dean.[2] For the 296 colleges with discontinued programs, addresses were obtained from other sources (telephone directories, Lovejoy's, etc.) and the questionnaires were mailed to the attention of the President of the institution with a request that it be forwarded to the "person most familiar with the history of co-op at that institution".

Questionnaires and stamped, return envelopes were mailed to all 908 institutions in late December 1982. A total of 312 completed questionnaires was received before the March 1983 cut-off date, representing a 34 percent response rate. (An additional 52 questionnaires could not be used in the analyses: 19 because they were returned as "non-deliverable, address unknown"; two because they bore institutional names similar to two others; and 31 which were not filled out. Of this latter group of 31, 17 indicated that the school had no co-op program, giving no clear indication whether one had ever existed; 9 offered no explanation or else indicated uncertainty about the history of co-op; and 7 noted that the school never offered co-op.)

For questionnaire as well as for directory data, means and proportions were calculated based on the number of respondents to each item. As noted, the no response rate was very low for directory data, except for the discontinued group. For questionnaire data, the percentage of no response was similarly low for most items, but unusually high for questions 28 through 52. These questions pertained to the importance of select variables in the

---

[1] See Appendix A for a copy of the questionnaire and each of the two cover letters.

[2] We wish to thank the Cooperative Education Research Center for providing us with up-to-date mailing labels.

success of a co-op program. In the presentation of the findings, the proportion of nonrespondents will be noted if it exceeds 7 percent.

FEDERAL CO-OP GRANT RECIPIENTS

Complete yearly listings of Federal co-op recipients provided the basic source of information about which of the 860 co-op programs had received Federal monies for administrative, training, demonstration, and/or research projects. The kind of award, the years involved, and the dollar amounts were recorded.[1]

In general, this data was easily interpretable, except in those instances when awards were made to consortia. In the cases where the individual consortium members were identified, we allotted each member an equal share of the total award.

There were several variables for which we had more than one source of data. Usually, but not always, data from the diverse sources agreed fairly closely. Differences were most notable in the number of co-op enrollees reported (directory data vs. questionnaire data) and in the institutions having received Federal funds (questionnaire data vs. lists of Federal co-op grant recipients), and were most pronounced for the "stable" analytic group. The differences probably resulted from several factors, but primarily because the data were reported by different individuals at different points in time. In reporting results, the most accurate data source, in the opinion of the authors, was used, with differences in the data sources noted in the discussion.

RESULTS

This section of the report starts with a description of the growth of co-op programs from 1974-75 through 1981-82. Then follows a presentation of institutional, programmatic, funding, and community characteristics.

GROWTH IN CO-OP PROGRAMS, 1974-75 THROUGH 1981-82

Growth is defined as increases/decreases in co-op student enrollment. The most comprehensive data pertaining to enrollment is from the directories for the eight-year period between 1974-75 through 1981-82, inclusive.

[1] We did not record this information about the 48 institutions (908-860) for whom growth status data was not available, since it would not have contributed to describing the effects of Federal funding on co-op program growth.

Directory data. As described earlier, the directories provided complete or nearly complete data about 860 of the 908 co-op programs that were thought to exist in 1974-75. On the basis of the number of co-op students reported enrolled by an institution, their programs were classified into the following five growth groups:

- INCREASED - cooperative education enrollments increased. Programs were included in this category if the difference in enrollment between 1974-75 and 1981-82[1] showed an increase of 20 percent or more[2].

- FLUC/SAME - cooperative education enrollment fluctuated year-to-year, but remained essentially the same from 1974-75 to 1981-82. Programs in this category showed less than a 20 percent change in co-op enrollment from the first to last year under consideration, but had at least one increase or decrease in enrollment of 20 percent or more in one of the intervening years.

- STABLE - cooperative education enrollments remained stable from 1974-75 to 1981-82. These colleges showed less than a 20 percent change in co-op enrollment from the first to the last year and, moreover, had no single year-to-year fluctuation of 20 percent or more.

- DECREASED - cooperative education enrollments decreased from 1974-75 to 1981-82. Programs comprising this category included colleges whose co-op enrollments decreased by 20 percent or more over the eight-year period studied. Like colleges in the above categories, however, this group of programs remained operative in 1981-82.

- DISCONTINUED - the cooperative education program, operative in 1974-75, was subsequently discontinued. Regardless of the pattern of enrollments in the years after 1974-75, or the number of years co-op was offered, institutions in the DISCONTINUED classification had no operating program in 1981-82.

---

[1] When enrollments were not reported for 1974-75, we used the first year they were available. Similarly, if there was no data for 1981-82, we used the last year of reported enrollment as the end figure. This procedure was used in analyses of all data from the directories.

[2] In all instances of very small enrollments (less than 50 students), the 20% rule was modified: any change in enrollment was classified as an increase/decrease if it involved ten or more students.

The first two left columns of Table 1 below presents the number and proportion of colleges in each growth category. As can be seen, approximately one-third (34.4%) of the colleges DISCONTINUED their co-op program at some point after 1974-75. Almost as many (31.7%), experienced an INCREASE in program size, while 21.2 percent showed a pattern of DECREASED student enrollment. Relatively few remained STABLE(4.9%) or FLUC/SAME (7.8%).

TABLE 1

Number and Percentage of Co-op Programs and Mean Co-op Enrollment in 1974-75 and Most Recent Year, By Growth Category

Growth Category[a]	Co-op Programs		Mean Co-op Enrollment	
	N	%	1974-75	Most Recent Year
DISCONTINUED	296	34.4	112[b]	96[b]
DECREASED	182	21.2	396	172
STABLE	42	4.9	69	66
FLUC/SAME	67	7.8	165	158
INCREASED	273	31.7	162	348
TOTAL	860	100.0%	$\bar{X}$=202	$\bar{X}$=248[c]

Note: These data are taken from the Cooperative Education directories.

[a]For a description of categories, See text, page 8.

[b]These figures were based on only 62.2% of DISCONTINUED programs for which data were reported.

[c]This mean is based on programs active in 1981-82 (i.e., all but DISCONTINUED programs).

Table 1 also shows, for each of the analytic groups, the average number of enrollees during the first and last year studied. The INCREASED group almost doubled in size, from 162 to 348 students. The figures for the DECREASED group of programs showed a reverse pattern, from 396 (in 1974-75) to 172 (in 1981-82). In the FLUC/SAME group, mean enrollments were about equal in the first and last year as expected, and about comparable to the lowest enrollments for the INCREASED and DECREASED groups--165 in 1974-75 and 158 in 1981-82. The STABLE group went from an average of 69 students to 66 students and, of all analytic groups, had the smallest number of students enrolled overall. DISCONTINUED programs averaged 112 students in the first year and 96 in their last year of operation.

The attrition of co-op programs was gradual, with the largest number being discontinued in the third year under study. For 5.3 percent of the DISCONTINUED programs, 1974-75 was the last year of co-op; 12.3 percent were discontinued in 1975-76; 25.9 percent in 1976-77; 22.5 percent in 1977-78; 10.2 percent in 1978-79; 12.7 percent in 1979-80; and the remaining 11.1 percent were discontinued in 1980-81.

The directories showed all the eight yearly listings for most 1974-75 programs that were still operative in 1981-82. This was true for about 96 percent of the FLUC/SAME groups, 92 percent of the INCREASED group, 91 percent of the DECREASED group, and 88 percent of the STABLE group. (The other programs in these groups did not appear in at least one directory.) Among DISCONTINUED programs, about 95 percent operated continuously from 1974-75 until the year of their demise.

Table 2 on page 11 shows that gradual changes in the number of co-op student enrollments was the exception, not the rule. ALL STABLE programs, by definition, had small year-to-year variations, but this was the smallest group of programs as we saw above, accounting for only about 5 percent of all programs. All FLUC/SAME programs (8% of the total programs) had at least one yearly large increase or decrease in enrollment (again by definition), as did 97.4 percent and 97.2 percent of the INCREASED and DECREASED schools, respectively. Only somewhat more than half (54.3%) of DISCONTINUED programs could be described as slow-changing.

TABLE 2

Percentage of Co-op Programs Experiencing Single-Year Enrollment Fluctuations, By Growth Category

(Figures in Percentages)

Single-Year Co-op Enrollment Fluctuations	% of Programs				
	DISCONTINUED (N=296[b])	DECREASED (N=182)	STABLE (N=42)	FLUC/SAME (N=67)	INCREASED (N=273)
No large single-year fluctuation[a]	54.3	2.8	100.0	-	2.6
At least 1 large increase, no large decrease	17.4	41.8	-	7.5	-
At least 1 large decrease, no large increase	13.6	0.6	-	13.4	44.3
At least 1 large increase and 1 large decrease	14.7	54.8	-	79.1	53.1
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

Note: These data are from the Cooperative Education directories.

[a] Large is defined as 20% or 10 students, whichever is greater.

[b] These proportions are based on only the 62.2% of DISCONTINUED programs for which enrollment statistics were available.

If changes in enrollments were not gradual, neither were they consistent. Almost 8 out of 10 (79.1%) colleges in the FLUC/SAME group witnessed years of large increases as well as years of large decreases in enrollment. This may not be surprising, but it is interesting that more than half of the programs in the INCREASED and DECREASED groups also demonstrated large swings--in both directions--as did 14.7 percent of the DISCONTINUED group (See Table 2).

Comparison of Questionnaire and Directory Data. For analyses involving questionnaire data, the respondents were divided into the five growth groups on the basis of their responses to items #12 and 15. Table 3 (page 12) summarizes the number and proportion of programs in each analytic group, based on self-reports.

TABLE 3

Number and Proportion of Questionnaire Respondents in Each Growth Category, and Average Reported Co-op Enrollment in Most Recent Year of Operation

Growth Category	Respondents		Average Co-op Enrollment, Most Recent Year
	N	% of All Respondents	
DISCONTINUED	24	7.7	6[illegible]
DECREASED	44	14.1	247
STABLE	36	11.5	305
FLUC/SAME	48	15.4	193
INCREASED	160	51.3	442
TOTAL	312	100.0%	$\bar{x}$=352.4[a]

*Non-respondents to the item on co-op enrollment equalled 12.5% for this group.

[a] Mean based on programs active in 1981-82 (i.e., all but DISCONTINUED programs).

The figures in Table 3 do not closely match those presented in Table 1 using directory data. It can be seen that about half of the questionnaire respondents considered their programs as having INCREASED, substantially more than we classified on the basis of the data in the directory. There were small differences among the proportions of questionnaire respondents who indicated their programs to be FLUC/SAME (15.4%), STABLE (11.5%), and DECREASED (14.1%). Very few respondents reported that their programs were DISCONTINUED (7.7%).

It is not surprising that schools which no longer have operating co-op programs would not respond to the questionnaire, if only because the person(s) knowledgeable about a terminated program is more difficult to locate. This in itself could account for the underrepresentation of discontinued programs noted in our questionnaire sample. It is also possible that among programs still operating, those that are growing (INCREASED) would show a greater interest in this study, thus contributing to their overrepresentation among the respondents.

Disproportionate represention of questionnaire respondents among groups is not critical, since the analytic groups are treated separately. (It would be more troubling if the respondents within any one group were not representative of the group as a whole.) However, in subsequent analyses, we usually see that in using either data source to define analytic groups, the direction of differences among groups was the same. Thus, by and large, both data sources yield similar outcomes.

Since the questionnaire respondents represent only 34 percent of all 1974-75 co-op programs, whereas the directory data includes about 95 percent of the population, we believe that the directory data (in Table 1) most accurately describes the growth pattern in cooperative education programs for the eight-year period from 1974-75 through 1981-82.

It should be noted that the greatest difference between questionnaire and directory data is in the average co-op enrollment in 1981-82 (or most recent year of operation). For DISCONTINUED programs, the directory-computed mean enrollment of 96 is larger than the mean of 68 computed from the questionnaire responses. In all other groups, the questionnaire-mean was higher than the directory-mean: 247 vs. 172, DECREASED; 305 vs. 66, STABLE; 193 vs. 158, FLUC/SAME; and 442 vs. 348, INCREASED.

Not all of these differences are of equal concern. Omitting consideration of STABLE programs for the moment, the rank order of groups by average enrollment is the same using each data source: INCREASED, the largest, followed by DECREASED, FLUC/SAME, and DISCONTINUED. Thus, one could draw similar conclusions about the relative standing of the analytic growth groups.

The STABLE group shows the most disparity. Not only do the data sources show very different average enrollments, but the directory mean says these programs were the smallest, while the questionnaire mean indicates they were the second largest. In an attempt to explain the different figures, we closely examined the questionnaire responses, noting that five of the STABLE respondents reported extremely high enrollments---4000, 1600, 1400, 500, and 500. These figures raised the STABLE group mean which, if re-calculated without them, would drop to 96 students. Since no extremely large programs were classified as STABLE based on the directory data, it can be concluded that these five schools used reporting criteria for the questionnaire very unlike those used for the directory classification.

In interpreting the findings pertaining to the STABLE group, it is important to keep in mind that membership in this group varies depending on whether directory data or questionnaire data is being considered.

INSTITUTIONAL CHARACTERISTICS

In this section, we will examine the five groups of co-op programs in terms of differences in institutional variables--type of college, general enrollment figures, administrative structure, and so on.

General Variables. Table 4 on page 15 summarizes questionnaire responses to general questions. The top third of the table shows the highest degree granted by the institutions. No significant statistical relationship was found between highest degree awarded and co-op growth category (defined in this instance by self-report on the questionnaire[1]).

As can be seen in the table, awarding the associate degree is characteristic of less than half of the schools in each group, ranging from 35.0 percent of the INCREASED group to 44.4 percent of the STABLE group. Some contrasts can be noted in examining the highest degrees awarded by the other schools in each category. For example, 34.4 percent of the INCREASED group offers doctoral degrees--a considerably greater proportion than that of the other groups. Moreover, the proportion of doctorate-granting institutions is greater for the three groups with stable or growing co-op programs than for the DISCONTINUED or DECREASED colleges, suggesting as one hypothesis that a co-op program is more likely to maintain itself or grow within institutions of greater diversity.

---

[1] The directories also supplied data describing institutions as junior or senior colleges. For the most part, the proportions for each growth group are similar to those obtained from the questionnaire analysis. The percentages of junior colleges among the DISCONTINUED, FLUC/SAME, and INCREASED groups of schools was within 6 percent of the figures in Table 4--47.6%, 49.3%, and 35.5%, respectively. However, the directory-defined DECREASED group showed a substantially higher proportion of junior colleges (59.3%), while the proportion in the STABLE group was much lower (23.8%).

TABLE 4

General Institutional Characteristics, By Co-op Growth Category

(Based on Questionnaire Responses; figures in Percentages)

(Item #) Institutional Characteristics:	% Indicating Each Option				
	DISCONTINUED (N=24)	DECREASED (N=44)	STABLE (N=36)	FLUC/SAME (N=48)	INCREASED (N=160)
(2) Highest degree granted by institution:					
Associate	41.7	38.6	44.4	43.7[a]	35.0
BA/BS	25.0	15.9	5.6	16.7	10.6
Masters	20.8	34.1	33.3	20.8	20.0
Doctorate	12.5	11.4	16.7	18.8	34.4
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(3) Type of institution:					
Public	66.7	63.6	77.8	78.7	77.1
Private	33.3	36.4	22.2	21.3	22.9
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(4) Institutional setting:					
Urban	26.1	56.1	45.7	53.3	40.5
Suburban	26.1	19.5	28.6	11.1	28.1
Rural	47.8	24.4	25.7	35.6	31.4
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

[a] Includes 2.1% granting "other" vocational-technical degrees.

Table 4 also shows the proportion of colleges in each category that are publically or privately controlled. Public colleges predominated in each group, accounting for more than three-quarters of the schools with same-size or growing co-op programs. (Differences among groups on this dimension are not statistically significant.)

In terms of geographic setting, the figures in Table 4 show some differences among groups, but no consistent pattern. The INCREASED group is most evenly divided among urban, suburban, and rural locales--although urban colleges are slightly more typical (40.5%). Half or more of the DECREASED and FLUC/SAME groups, and almost half of the STABLE group, are composed of urban colleges, in contrast to about one-fourth of the DISCONTINUED schools where about half are in rural settings. The value of χ^2 showed no significant relationship when data from all five groups was considered; however, when the DISCONTINUED group was compared to all other groups, a significant relationship (at the .01 level) was obtained. From this, we can conclude that DISCONTINUED co-op programs are more likely in schools in rural settings.

Size/Enrollment Variables. Table 5 (page 17) presents the 1981-82 total undergraduate enrollments for schools in each analytic group. The χ^2 values indicate a relationship to growth status. The data in the table show that the increasing growth group includes the smallest proportion of small colleges (1500 students, or fewer). Small colleges account for 43.2 percent of the DECREASED group and 29.2 percent of the DISCONTINUED group, as compared to 25.0 percent, 21.3 percent, and 11.2 percent of STABLE, FLUC/SAME, and INCREASED groups, respectively.

Looking at the proportions of very large institutions (those with undergraduate enrollments of 6000+), we see that they comprise more than half of the INCREASED group, but only about one-third of the DECREASED, STABLE and FLUC/SAME ones, and about one-fifth of the DISCONTINUED group. These data clearly indicate that co-op programs are more likely to be maintained and expanded in the larger colleges and universities.

Included in Table 5 (middle third) are overall trends in institutions' undergraduate enrollments between 1974-75 and 1981-82. These data are also significantly related to co-op growth, although half or more of the colleges in each group experienced either "somewhat" or "dramatically" increased enrollments during the period under study. However, fewer colleges in the DECREASED

TABLE 5

Institutional Enrollment Characteristics, By Co-op Growth Category

(Based on Questionnaire Responses; figures in Percentages)

(Item #) Institutional Enrollment Characteristics:	% Indicating Each Option				
	DISCONTINUED (N=24)	DECREASED (N=44)	STABLE (N=36)	FLUC/SAME (N=48)	INCREASED (N=160)
(5) Approximate undergraduate student enrollment, 1981-82 academic year:[Δ]					
1500 or fewer	29.2	43.2	25.0	21.3	11.2
1501 - 3000	45.8	9.1	11.1	27.7	15.0
3001 - 4500	-	6.8	16.7	8.5	8.8
4501 - 6000	4.2	6.8	13.9	8.5	10.0
6000 +	20.8	34.1	33.3	34.0	55.0
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(6) Overall trend in undergraduate enrollment between 1974-75 and 1981-82:[Δ]					
Decreased dramatically		13.6	5.6	-	1.3
Decreased somewhat	16.6	18.2	8.3	10.4	8.2
Remained stable	4.2	15.9	5.6	6.3	8.2
Fluctuated but remained same	4.2	2.3	-	16.7	6.3
Increased somewhat	41.7	31.8	50.1	47.9	39.3
Increased dramatically	33.3	18.2	30.5	18.7	36.7
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(7) Proportion of undergraduates in professional curricula, 1981-82:					
25% or fewer	8.7	9.8	13.9	8.5	6.3
26-50%	21.8	29.2	16.7	17.0	25.3
51-75%	56.5	36.6	47.7	48.9	42.4
76% or more	13.3	24.4	22.2	25.6	26.0
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(8) Change in % undergraduates in professional curricula from 1974-75 to 1981-82:					
Decreased	4.3	5.0	5.5	4.3	1.9
Remained same	30.5	22.5	28.8	31.9	21.7
Increased	65.2	72.5	65.7	63.8	76.4
TOTAL	100.0%	100.0%*	100.0%	100.0%	100.0%

*Non-respondents equalled 9.1% of this group.

[Δ] χ^2 significant at .01 level

group (50.0% and more colleges in the INCREASED group (76.0%) had expanding undergraduate student populations. "Somewhat" or "dramatically" decreased numbers of students was most characteristic of the DECREASED group of colleges, where 31.8 percent reported such enrollment decreases. (For the other groups, the proportion of colleges reporting a decreasing enrollment pattern ranged from 9.5 percent of the INCREASED category to 16.6 percent of the DISCONTINUED group.)

This data indicates that among colleges with still operating co-op programs, those with a generally growing undergraduate population are more likely to have growth in their co-op programs and, conversely, colleges with shrinking enrollments have a greater tendency to lose co-op students as well. However, since 75.0 percent of the colleges in the DISCONTINUED group also showed increasing general enrollments, whether or not co-op programs remain in operation or are dismantled does not appear to be affected by the pattern of undergraduate growth.[1]

In attempt to more fully understand the relationship between general enrollment trends and co-op growth, we further examined the proportion of undergraduates enrolled in professional curricula in 1981-82. These data are presented in the bottom third of Table 5 (page 17). As indicated, in 1981-82 the largest proportion of colleges in each growth category had between 51 and 75 percent of undergraduates enrolled in professional curricula. (The exact percentages ranged between 36.6 percent of schools in the DECREASED group to 56.5 percent in the DISCONTINUED group.) The co-op growth groups do not differ significantly on this dimension, with most colleges in each of the five groups reporting that half or more of the student body is enrolled in the colleges' professional programs. Similarly, there is no consistent relationship between trends in professional curricula enrollments between 1974-75 and 1981-82 and co-op growth status; most respondents report increasing professional curricula enrollments (see Table 5).

Administrative Variables. Several items on the questionnaire concerned the colleges' administration over the period of study and provide some clues abour co-op program growth

When asked whether there was "stability in top administration" (item #29, see Appendix A), most respondents indicated that there was. This included 60.5

---

[1] This interpretation, it should be noted, is based on a very small number of DISCONTINUED questionnaire respondents.

percent of the DECREASED colleges and 76.9 percent of the INCREASED, 77.5 percent of the FLUC/SAME, 80.0 percent of DISCONTINUED, and 84.4 percent of the STABLE colleges. No statistically significant relation was found between this variable and growth.

About 40 percent (43.5%) of the colleges in the DISCONTINUED category reported that there was a "major revision in the institution's goals or approach to education" (item #9) during the eight year period, which is a substantially greater proportion than for the other analytic groups: 24.7 percent of the INCREASED colleges noted a major change, as did 22.7 percent of DECREASED, 14.9 percent of FLUC/SAME, and 14.3 percent of colleges in the STABLE classification. While differences on this variable approached statistical significance ($\chi^2 = p \leq .10$), the factor seems to distinguish best between the programs that continued cooperative education and those that did not, but not among continuing programs exhibiting different patterns of growth.

Most respondents indicated that the colleges' top adminsitation "holds a positive view about the value of co-op for students" (item #31), although the proportion was smaller for DECREASED colleges (75.0%) than for the others--90.7 percent of FLUC/SAME, 91.5 percent of INCREASED, 93.7 percent of STABLE, and 94.7 percent of DISCONTINUED. These differences (χ^2) were significant at the .05 level. It would seem that among still-operating co-op programs, a positive view about co-op's value is more prevalent in colleges where the co-op program is stable or growing than it is in colleges where the co-op program is on the decline.[1]

Importance of Institutional Variables to Co-op Growth. Questionnaire respondents rated the importance of selected variables to the growth of co-op programs in institutions similar to theirs, indicating either "detrimental to growth", "not important to growth", "important but not essential", and "essential to growth." These scale values were given weights of 1 to 4, respectively, and average ratings were computed for each variable (item). These ratings are presented in Table 6 on the following page.

---

[1] It is interesting that DISCONTINUED colleges were most likely to report positive views among top administrators. It is possible that the colleges that responded to the questionnaire included a disproportionate number who are still interested, or who have become re-interested, in cooperative education programs.

TABLE 6

Questionnaire Respondents' Average Rating of Importance of Institutional Characteristics to the Growth of a Co-op Program, By Growth Category

(Item #) Institutional Characteristics:	Average Rating [a]					
	DISCONTINUED (N=24)	DECREASED (N=44)	STABLE (N=36)	FLUC/SAME (N=48)	INCREASED (N=160)	ALL RESPONDENTS (N=312)
(31) Top level administration holds a positive view about co-op's value for students	3.64*	3.57	3.56	3.85	3.87*	3.77
(30) Stability in institutional goals or objectives	3.29*	3.63*	3.45*	3.47*	3.43*	3.45*
(29) Stability in top-level administration	3.25*	3.22	3.25	3.42	3.23*	3.26
(28) Stable student enrollment in institution generally	2.82*	3.19*	3.04*	3.29*	3.13*	3.13*
(49) Most students at the institution are enrolled in professional curricula	2.42*	2.71*	2.90*	2.79*	2.93*	2.85*

[a]Scale: 1=detrimental to growth; 2=not important to growth; 3=important, not essential to growth; 4=essential to growth. Averages were computed based on the respondents to each question.

*Non-respondents exceeded 7% (ranging from 8.1% to 29.2%)

All groups felt that it was extremely important to the growth of co-op that "top level administration holds a positive view about co-op's value for students"; the average ratings ranged from 3.56 (STABLE) to 3.87 (INCREASED). In fact, more than 70 percent of the respondents in each growth group noted that this was "essential to growth." Indeed, findings reported above indicated that this factor was positively related to the growth of cooperative education programs since 1974-75.

High ratings were also given to "stability in institutional goals or objectives," ranging from 3.29 (DISCONTINUED) to 3.63 (DECREASED). While the DISCONTINUED group previously reported the most revision in goals, they also tended to rate this somewhat less important than did the other groups. "Stability in top-level administration" was believed to be fairly important as well (from 3.22 for the DECREASED group to 3.42 for the FLUC/SAME group) and, overall, respondents tended to feel that "stable general student enrollments" was important but not essential to co-op growth--an opinion not well supported by other data.

Not given a great deal of importance was whether "most students in the institution are enrolled in professional curricula." The average ratings, ranging from 2.44 (DISCONTINUED) to 2.93 (INCREASED), indicate that this factor is seen to lie between "not important" and "important but not essential" to the growth of a cooperative education program. The opinion of respondents is consistent with data presented earlier which showed no obvious connection between proportion of enrollees in professional programs and co-op growth status.

To summarize, several institutional variables do not seem to be related to the growth of co-op programs during the years 1974-75 through 1981-82. Thus, for example, about one-third to one-half of the schools in each category granted an associate degree, with no significant difference among the analytic groups. However, there was some evidence to indicate that doctoral-degree granting institutions were more likely among the group of schools where co-op increased in size.

Other variables not related to program growth include public-private control (most co-op programs seem to operate in institutions that are publically controlled), strength of professional curricula (most students in the majority of colleges in each category are enrolled in such curricula), and stability of the schools' administration (stable administrations are more common than not, irrespective of analytic group).

On the other hand, co-op growth was found to be related to several other variables, including the size of and trend in the colleges' undergraduate enrollments. Very large colleges were typical among institutions where co-op increased since 1974-75, while very small colleges were more common among those where co-op declined or was discontinued. Growing general enrollments were also

positively related to the growth of co-op, and decreases in the general student population related to decreases in the number of co-op students. A positive view of co-op by top administrators was also related in a positive way to growth of co-op programs, and was least usual among institutions where co-op continued but at a declining level.

The greatest proportion of colleges with still-operating co-op programs are in urban areas; it is more typical of discontinued programs to be in institutions in rural environments. Furthermore, as compared to other analytic groups, colleges that discontinued co-op were more likely to have undergone major revisions in goals during the period of study.

In terms of the importance of some of these variables, questionnaire respondents generally felt that a positive view of co-op's benefits, as well as stability in institutional goals, were important or essential to the growth of cooperative education within the institution. In contrast, stable undergraduate enrollments were perceived as important but not essential to growth, and the proportion of students in professional curricula was deemed of little importance.

PROGRAMMATIC CHARACTERISTICS

Below, we will compare the analytic groups on variables concerning the nature and kind of co-op program, considering size and scope of the programs as well as type of operation, leadership, and staffing. We will also present respondents' opinions about these factors as they are perceived to relate to the growth of co-op programs.

Size and Scope of Co-op Program. Table 7 on the following page summarizes responses to several questionnaire items about the size and scope of the co-op program at the respondent's institution. Considering first which year the co-op program started at the particular school, it can be seen that at least three-quarters of the programs in each growth category began between 1961-62 and 1974-75. Of the still-operational programs, from 8.6 to 13.9 percent were already in existence in 1961-62, in contrast to only 4.3 percent of the programs comprising the DISCONTINUED group. Although the relationship is not significant, these data suggest that almost all of the programs that began 20+ years ago are still operating.

TABLE 7

Size and Scope of Co-op Programs, By Co-op Growth Category

(Based on Questionnaire Responses; figures in Percentages)

(Item #) Size and Scope Characteristics:	% Indicating Each Option				
	DISCONTINUED (N=24)	DECREASED (N=44)	STABLE (N=36)	FLUC/SAME (N=48)	INCREASED (N=160)
(10) Academic year co-op began:					
Prior to 1951-52	4.3	4.7	5.6	4.3	7.5
Between 1951-52 and 1960-61	-	7.0	8.3	4.3	5.7
Between 1961-62 and 1974-75	87.0	76.7	72.2	85.1	74.8
Not sure, or other response	8.7	11.6	13.9	6.3	12.0
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(14) Total co-op enrollment, most recent year: $^{\Delta}$					
1-100 students	76.1	65.2	58.4	52.1	30.4
101-200 students	14.3	11.6	11.1	20.8	20.3
201-300 students	4.8	2.3	19.5	8.4	14.5
Over 300 students	4.8	20.9	11.0	18.7	34.8
TOTAL	100.0%*	100.0%	100.0%	100.0%	100.0%
(16) Average co-op enrollment for operational years between 1974-75 and 1981-82 as proportion of undergraduate enrollment: $^{\Delta\Delta}$					
Less than 10%	83.4	72.1	62.9	89.3	74.8
Between 10% and 25%	8.3	18.6	11.4	4.3	15.1
Over 25%, less than 50%	-	-	5.7	4.3	5.7
50% to 75%	-	7.0	2.9	-	2.5
Over 75%	8.3	2.3	17.1	2.1	1.9
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(17) Percentage of curricula in which co-op was offered, most operational years: $^{\Delta\Delta}$					
All or most	39.1	54.8	61.1	39.6	32.1
Half or more, not most	4.3	9.5	11.1	18.7	26.4
Less than half	56.6	35.7	27.8	41.7	41.5
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

*Non-respondents equalled 12.5% of this group for this item.

$^{\Delta}\chi^2$ significant at .01 level.

$^{\Delta\Delta}\chi^2$ significant at .05 level

Total co-op enrollment during 1981-82, or the most recent year of operation (as reported on the questionnaire), is also presented in Table 7 (page 23).[1] These figures are significantly related to growth status. About one-third of INCREASED programs operate with co-op enrollments of less than 100 students, and an additional third enroll more than 300 students; approximately half of the programs in this group report enrollments of 200 or more co-op students. Programs in the other groups tend to be smaller; somewhat more than half of all the schools in each group enrolled 100 or fewer students.

It is partly a matter of definition that INCREASED programs had larger enrollments in 1981-82, since all of them expanded over the eight year study period. But it is interesting that 20.9 percent of the DECREASED group reported enrollments of 300+ in their most recent yeat of operation, indicating that a sizable proportion of such programs still have large enrollments, although they have been losing ground. The fact that more than three-quarters of DISCONTINUED programs had so relatively few students at the end is also not surprising, since this represents the last enrollment figures before co-op was phased out at the institution.

Related to size of the co-op program, and also a significant variable related to growth status, is the institution's co-op enrollment expressed as a proportion of total undergraduate enrollment. For most programs (from 62.9 percent STABLE to 89.3 percent FLUC/SAME) in each category, the proportion was less than 10 percent. The STABLE group was most different from the others: here, not only were fewer programs smaller in scope (i.e., enrolling an insubstantial proportion of undergraduates), but more programs were very large in scope. Comparing the STABLE and FLUC/SAME groups leads to the interpretation that programs that approach being schoolwide are more stable (in terms of co-op enrollments) than programs narrower in scope.

Another factor that distinguished significantly among groups was an alternative indicator of scope: the proportion of the institution's curricula in which co-op was offered (for most of the years between 1974-75 and 1981-82).

---

[1] We noted previously that these figures are generally higher than those in the directory. However, the direction of the differences for four groups (excepting the STABLE group) are in accord. Therefore, the discussion of co-op enrollments obtained by questionnaire provides some useful data, although the exact numbers should be cautiously treated.

More STABLE colleges (61.1 percent) are likely to offer co-op in all or in most curricula (see Table 7, page 23), a finding that complements that reported above.

Among the other analytic groups, it is striking that more than half of the DECREASED programs reported that co-op was offered in all or in most curricula, whereas less than 40 percent of DISCONTINUED, FLUC/SAME, and INCREASED did so. In fact, most schools in these latter groups offered co-op in less than half of their curricular offerings. There appears then, to be no easily understandable pattern, but it may be that among still-operating programs, the concentration of co-op in a few areas of study is more conducive to expansion.

Table 8 (page 26) presents data on curricula, derived from the directories. It shows the proportion of programs in each group that offered co-op in each of seven different curricular groupings for (at least) half of the operational years between 1974-75 and 1981-82. As can be seen from an examination of the data, co-op is most usually offered (i.e., offered by a larger proportion of institutions) in the Business and Computer Sciences. Humanities, Physical Sciences, and Social Sciences also involve co-op to a fairly great extent.

DISCONTINUED and STABLE programs stand out: relatively few involved Engineering, in sharp contrast to the involvement of co-op in Engineering programs in the FLUC/SAME, DECREASED, and INCREASED schools. DECREASED co-op programs were heavily involved with the Education and Health majors. Indeed, the relatively large proportion of schools in the DECREASED group that offered co-op in each of the seven groupings is consistent with the previously reported questionnaire data indicating the widespread scope of these programs.

Item #50 of the questionnaire asked respondents whether co-op jobs typically related to students' major area of study. Almost all respondents in the STABLE and FLUC/SAME GROUPS (100%) and INCREASED groups (98.7%) indicated that this was indeed the case. Fewer, but still large proportions of the DECREASED programs (88.4%) and DISCONTINUED ones (80.0%) also reported a relation between co-op job and students' major. For this variable, the χ^2 value was significant at the .01 level. Thus, while most programs offered students' placements that related to their major, almost all programs that grow or maintain their size do so.

TABLE 8

Proportion of Programs Offering Co-op in Each Major During at Least Half of the Operational Years Between 1974-75 and 1981-82

(Data from Directories; figures in Percentages)

Major Area(s) of Study	Percentage of Programs Offering Co-op Half or More Years[a]				
	DISCONTINUED (N=296) *	DECREASED (N=182)	STABLE (N=42)	FLUC/SAME (N=67)	INCREASED (N=273)
Agriculture	17.6	35.7	19.0	29.9	25.3
Architecture, Applied Arts	21.3	36.3	21.4	40.3	36.3
Business, Computer Science	82.8	91.8	81.0	91.0	90.1
Education, Health	59.3	67.0	45.2	64.2	57.9
Engineering	21.3	45.6	28.6	41.8	56.4
Humanities, Physical Science, Social Science	63.3	70.3	71.4	74.6	74.0
Vocational, Technical, Secretarial Studies	55.7	72.0	35.7	59.7	58.2

[a]For each program, we considered only those years for which curricula were reported; thus, if a program had co-op for all 8 study-years, but reported specific curricular areas in only 4 directories, a given curriculum noted during 2 or more years would be counted as "half or more."

*Non-respondents in this group equalled 25.3% (i.e., no curricula were reported for any year).

Structure of Co-op Programs. The questionnaire and directories provide information about select aspects of how co-op programs are structured. Table 9, page 27, presents some of the data based on the directories.

Approximately half of the institutions in each group offered co-op on a semester or trimester basis. About 30 percent of the STABLE programs, and approximately 20 percent of the others used a quarter calendar plan. The variable was not significant, and the data shows no consistent pattern relating to growth.

Similarly, the number of work assignments required of co-op students does not distinguish among the groups (see Table 9, page 27). The number of assignments was reported to be "variable" by most schools in all groups, with the exception of the STABLE group. The most typical number of co-op assignments was 2 for all groups, excluding the DECREASED schools that typically reported 4 required work assignments.

TABLE 9

Selected Co-op Program Structural Characteristics During Most Operational Years from 1974-75 to 1981-82, By Co-op Growth Category

(Data from Directories; figures in Percentages)

Program Structural Characteristics	% Indicating Each Option Most Years				
	DISCONTINUED (N=296)	DECREASED (N=182)	STABLE (N=42)	FLUC/SAME (N=67)	INCREASED (N=273)
Length of co-op term:					
Less than full term	10.1	9.9	7.1	7.5	7.0
Quarter	18.0	19.3	31.0	22.4	20.1
Semester or trimester	49.5	45.4	47.6	47.7	49.1
Unspecified	22.4	25.4	14.3	22.4	23.8
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
Number of work terms provided or required:					
One	14.3	6.1	2.4	7.5	6.2
Two	23.7	16.7	35.6	23.9	19.8
Three	19.6	13.9	16.7	17.9	14.3
Four	10.7	20.6	14.2	11.9	9.9
Five-eight	7.1	10.0	14.4	13.5	11.7
"Varies"	24.6	32.7	16.7	25.3	38.1
TOTAL	100.0%*	100.0%	100.0%	100.0%	100.0%
Credit awarded for co-op work:					
Non-additive credit awarded-- (takes place of classroom credit)	64.8	28.7	19.0	32.8	16.5
Additive credit awarded-- (added to those required for degree)	11.3	46.5	64.3	43.3	49.5
Additive or non-additive credit awarded, depends on curriculum	4.8	13.8	2.4	14.9	16.1
No credit awarded, or only credit for co-op related papers/project	19.1	11.0	14.3	9.0	17.9
TOTAL	100.0%*	100.0%	100.0%	100.0%	100.0%

*Non-respondents exceed 7% (22.3% to 24.3%)

Whether respondents offered co-op in an alternating, parallel, extended day, or other mode (questionnaire item #18) was also not related to growth status. The most usual pattern of schooling and work was alternating, accounting for about 40 percent of the schools in each category. Parallel programs were next most predominant, except in schools in the DECREASED group. Very few INCREASED, FLUC/SAME, or DECREASED institutions were involved in the extended day concept (3.8%. 6.3%, and 2.4%, respectively), although this format was used by 18.2 percent and 16.7 percent of the DISCONTINUED and STABLE groups, respectively.

Table 9 also summarizes the proportion of programs that award various types of credit for the co-op placement. Of interest is the finding that 64.8 percent of the DISCONTINUED programs offered student non-additive credit; in no other growth group was this so. Non-additive credit was used by less than one-third of the DECREASED and FLUC/SAME schools and by less than 20 percent of the STABLE and INCREASED ones. Indeed, schools in the INCREASED category were least likely to grant this type of credit.

In contrast, approximately half (43.3% of FLUC/SAME to 64.3% of STABLE) of the still-operational programs offered students additive credits for their work assignment, in comparison to only 11.3 percent of institutions in the DISCONTINUED group. Interestingly, more of this latter group (19.1%) was likely to offer no credit for co-op work. However, a sizable percentage of INCREASED programs (17.9%) also awarded no credit for the co-op work experience. In terms of growth status, then, these data do not illustrate clear trends but suggest that credit for co-op work is not essential to the success of a program.

Questionnaire respondents provided similar data (item #37) which are consistent with those reported above. Here, however, the X^2 value approached significance--tending to differentiate between DISCONTINUED programs (where the greatest proportion of programs awarded academic credits for graduation) and the other groups.

Another questionnaire item (#36) concerned the issue of whether students on co-op work assignments pay tuition. The vast majority of respondents from schools in each group reported that they did, and the group differences were not large enough to be statistically significant.

About three-quarters of the questionnaire respondents in all groups, with the exception of the DISCONTINUED category, reported that their institutions had large, comprehensive work-study programs (item #47). The figures ranged from 62.2 percent (DECREASED) to 69.6 percent (INCREASED). Far fewer of the DISCONTINUED schools (41.2%) had large work-study programs. The X^2 value obtained when comparing the DISCONTINUED group with all others approached significance ($p \leq .10$). These data suggest that work-study programs do not adversely affect the maintenance of co-op programs and, in fact, co-op may more likely exist in their presence.

Co-op Program Leadership. The questionnaire contained several items about the leadership of an institution's co-op program; the responses to these items, for each of the analytic groups, is presented in Table 10 on the next page.

As can be seen in the top third of the table, there was a significant relationship between co-op program growth and the availability of a full-time director. Approximately three-quarters of INCREASED programs had a full-time director/dean "for most of the years between 1974-75 and 1981-82." This is a considerably higher percentage than that obtained in the other groups; in no other instance did more than half the institutions employ a director full-time. In fact, DISCONTINUED and DECREASED programs were even somewhat less likely to have full-time leadership than were programs that grew or were maintained.

The data in Table 10 (page 30) also shows that from about one-quarter (22.9%) to one-half (47.8%) of FLUC/SAME and DISCONTINUED programs, respectively, had had only one co-op director/dean for the eight years studied. While the latter proportion is high in relation to the other groups, note that these programs were generally in operation for fewer years (by definition) than the others. Among still-active programs, more of the INCREASED group (37.5%) were likely to have had only one director/dean, although the number of directors did not significantly relate to growth status overall.

TABLE 10

Co-op Leadership During Operational Years from 1974-75 to 1981-82, By Co-op Growth Category

(Based on Questionnaire Responses; figures in Percentages)

(Item #) Co-op Directorship Characteristics:	% Indicating Each Option				
	DISCONTINUED (N=24)	DECREASED (N=44)	STABLE (N=36)	FLUC/SAME (N=48)	INCREASED (N=160)
(32) Availability of full-time director/dean of co-op program:[Δ]					
No, for all or most years	57.9	59.5	46.9	53.3	26.2
Yes, for all or most years	42.1	40.5	53.1	46.7	73.8
TOTAL	100.0%*	100.0%*	100.0%*	100.0%*	100.0%*
(21) Number of different persons who served as dean/director of co-op:					
One	47.8	31.0	25.0	22.9	37.5
Two	39.1	23.8	36.1	33.3	30.6
Three	8.7	23.8	22.2	25.0	17.5
Four or more	-	14.3	11.1	12.5	10.6
Other	4.4	7.1	5.6	6.3	3.8
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(22) Generally, academic rank held by deans/directors:					
Full Professor	-	11.6	11.4	6.2	8.8
Associate or Assistant Professor	33.4	11.6	17.2	27.1	23.3
Instructor	16.6	9.3	20.0	10.4	10.1
Faculty rank, unspecified	-	7.0	2.9	-	2.5
No faculty rank	45.8	41.9	28.5	33.4	42.8
Other	4.2	18.6	20.0	22.9	12.5
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

*Non-respondents exceeded 7% (11.1% to 20.1%)

[Δ] χ^2 significant at the .01 level

Table 10 also shows the academic rank held by the directors/deans of co-op programs. Again, there was no significant relationship between their academic rank and growth status. Associate or assistant professorships was the most usual academic rank for each group (with one-third or less of the directors/deans holding these ranks), and very few directors/deans held full professorships (from none among DISCOMTINUED programs to 11.6 percent among DECREASED programs). It is interesting that "instructor" was the most frequently held rank of directors in schools in the STABLE group. (There were namy instances where co-op directors hold no academic rank; see Table 10.)

Questionnaire respondents were asked whether, during the eight-year period, there was a change in the administrative structure of the institution that resulted in the dean/director of co-op reporting to a new office (item #24). Although most programs in each group reported no change, the differences among groups approached statistical significance. More schools in the DECREASED and INCREASED groups reported organizational changes (42.9% and 38.8%, respectively) than did those in FLUC/SAME, DISCONTINUED, and STABLE categories (29.2%. 20.8%, and 20.6%, respectively). Thus, it appears that co-op programs that have experienced large changes in size-- either increases or decreases--were also more likely to have moved within the organizational structure of the institution than were programs that remained stable or ended.

The final question pertaining to co-op program characteristics (item #25) was whether the program was administered centrally or by department. Here again, the groups were not distinguished statistically. Most programs (from 58.3% of STABLE to 74.0% of DISCONTINUED) in each growth group were centrally run (for most of the years under investigation). Small, but nontrival, proportions of respondents described other administrative structures (i.e., other than central or by department).

Co-op Staffing. Table 11 on page 32 presents responses to questions about how co-op programs were staffed during the study period. First, it can be seen that co-op students' work assignments were supervised by teaching faculty from departments in somewhat more than half of the schools in each analytic group. (This factor did not discriminate among groups.)

TABLE 11

Co-op Staffing Characteristics During All or Most Operational Years from 1974-75, By Co-op Growth Category

(Based on Questionnaire Responses; figures in Percentages)

(Item #) Co-op Staffing Characteristics:	% Indicating Each Option				
	DISCONTINUED (N=24)	DECREASED (N=44)	STABLE (N=36)	FLUC/SAME (N=48)	INCREASED (N=160)
(39)All or most co-op students supervised by teaching faculty from departments:					
No, all or most years	38.9	39.0	41.9	42.2	41.2
Yes, all or most years	61.1	61.0	58.1	57.8	58.8
TOTAL	100.0%*	100.0%	100.0%*	100.0%	100.0%*
(35)Little turnover in co-op staffing:					
No, all or most years	35.7	27.5	16.1	34.1	28.4
Yes, all or most years	64.3	72.5	83.9	65.9	71.6
TOTAL	100.0%*	100.0%*	100.0%*	100.0%*	100.0%*
(41)Specific people devoted almost all their time to job development:+					
No, all or most years	76.5	90.0	86.7	72.7	71.3
Yes, all or most years	23.5	10.0	13.3	27.3	28.7
TOTAL	100.0%*	100.0%*	100.0%*	100.0%*	100.0%*
(26)Overall trend in coordinators workload between 1974-75 and 1981-82:Δ					
Fairly stable	50.0	45.5	80.6	69.6	36.5
To include greater N co-op students	20.0	13.6	8.3	26.1	62.8
To include reduced N co-op students	30.0	40.9	11.1	4.3	0.7
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(27)Status/titles of all or most co-op coordinators:					
Faculty status(with/ without admin. titles)	52.2	50.0	69.4	46.8	56.3
Administrative titles only	47.8	40.9	27.8	44.7	33.6
Other	-	9.1	2.8	8.5	10.1
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

*Non-respondents exceeded 7% (8.3%-41.7%)
+χ^2 significant at .10 level
Δχ^2 significant at .01 level

Most programs reported "little turnover in staffing. Not surprisingly, more STABLE programs (83.9%) noted little staff turnover. Low rates of turnover were reported by 72.5 percent and 71.6 percent of DECREASED and INCREASED programs, respectively. Although fewer schools in the DISCONTINUED (64.3%) and FLUC/SAME (65.9%) categories reported little turnover, the differences were not found to be statistically significant.

Respondents were asked whether specific staff was allocated to job development, devoting almost all their time to it. The data shows (Table 11) full-time job developers were more characteristic of INCREASED and FLUC/SAME schools, but even in these instances, only about one-fourth of the respondents reported full-time job developers. Proportionately fewer schools in the DISCONTINUED, STABLE, and DECREASED programs employed full-time staff for job development. The relationship between this variable and growth status approached significance (χ^2, $p \leq .10$). Thus, it would seem that although the vast majority of co-op programs do not assign particular individuals to job development, full-time job developers are more likely to be employed in still-operating programs that grow or fluctuate in growth.

Table 11 also presents data describing the overall trend in the co-op coordinators' workload (between 1974-75 and 1981-82), which was significantly different for the analytic groups. Coordinators' student load was fairly stable among schools in the STABLE and FLUC/SAME groups, and least stable in INCREASED programs. Indeed, 62.8 percent of the INCREASED groups reported an increasingly greater student load, a trend that was noted by only 20 percent or fewer of the programs in the other groups. On the other hand, fairly sizable proportions of DISCONTINUED (30.0%) and DECREASED (40.9%) programs noted that over the years the coordinators' student load had been reduced.

This variable appears quite closely related to the growth of co-op programs and suggests that as they change in size, new staff is not hired or let go. Rather, increases or reductions in enrollment are reflected in increased or decreased workloads for coordinators. Where co-op programs were discontinued or declined in size, there were reductions in coordinators' responsibilities. Programs increasing in size are more likely to increase their responsiblities.

Respondents report that in half or more of the programs, co-op coordinators hold faculty status; the remainder have administrative titles. Although the

proportion of programs where coordinators have faculty rank varies from 46.8 percent (FLUC/SAME) to 69.4 percent (STABLE), the difference on this dimension was not significant.

Importance of Programmatic Variables to Co-op Growth. Table 12 on the following page summarizes respondents' ratings of the importance of several programmatic characteristics to the growth of a cooperative education program.

For all respondents combined, on the average the variable rated most important was whether "co-op jobs related to students' major area of study". Not only was the overall rating of this factor high (3.62, between "important but not essential" and "essential" to growth), but more than half the respondents in each group deemed it "essential to growth". Earlier in this section of the report, we presented data that showed that virtually all programs that maintained their size or that grew related almost all jobs to students' curricula, as compared with smaller proportions of schools where co-op declined or was discontinued. It would appear, then, that this variable is, in fact, important to the continued vitality of co-op programs.

On the average, all respondents felt it quite important that co-op have a "full-time director/dean" The INCREASED group rated this most highly and, recalling previous data, were also the most likely to have a full-time director. "Continuity in co-op leadership" also rated higher than "important but not essential for growth". "Little turnover in staff" was rated moderately important, even though no group experienced a particularly high turnover rate.

Interestingly, DISCONTINUED program schools believed it was very important that "academic credit for graduation requirements [is] awarded for co-op work"; this was not as important to the other groups, especially to INCREASED program respondents who rated it lowest in importance. These data support those presented above which indicated that DISCONTINUED programs were most likely and INCREASED programs least likely to award non-additive credit for co-op. Furthermore, it would seem that the value of awarding credits is overestimated by DISCONTINUED programs.

TABLE 12

Questionnaire Respondents' Average Rating of Programmatic Characteristics' Importance to the Growth of a Co-op Program, By growth Category

(Item #) Programmatic Characteristics:	Average Rating[a] DISCONTINUED (N=24)	DECREASED (N=44)	STABLE (N=36)	FLUC/SAME (N=48)	INCREASED (N=160)	ALL RESPONDENTS (N=312)
(50)Most co-op jobs related to students' major area of study	3.55	3.44	3.50	3.71	3.67	3.62
(32)Full-time dean/ director	3.19*	3.36	3.21	3.48*	3.58	3.46
(34)Continuity in co-op leadership	3.22*	3.31*	3.25*	3.43*	3.44	3.39*
(37)Academic credit for graduation requirements award	3.52*	3.40	3.43	3.30	3.04	3.21
(35)Little turnover in staff	3.24*	2.93	3.09	3.22	3.18	3.15
(39)All/most co-op students supervised by teaching faculty from departments	3.60	3.27	3.00	3.02	3.02	3.09
(41)Specific people devote almost all their time to job development	3.25*	2.95	2.84*	3.32*	3.08	3.08
(33)Co-op operates centrally (rather than by department)	3.06*	3.06*	2.68*	3.05*	3.09	3.03*
(40)All/most co-op coordinators have faculty status	2.41*	2.82*	2.81*	2.85*	2.71	2.75*
(46)Co-op program enrolls 200+ students	2.50*	2.52*	2.64*	2.66*	2.72*	2.66*
(51)Alternating co-op/ schooling mode	2.84*	2.58*	2.74*	2.51*	2.61*	2.62*
(36)Students on work assignments pay tuition	2.50	2.34	2.42*	2.28	2.48	2.42
(48)Co-op program is concentrated in limited number of curricula	1.80*	1.83*	1.93*	1.79*	1.77*	1.81*

[a]Scale: 1=detrimental to growth; 2=not important to growth; 3=important, not essential to growth; 4=essential to growth. Averages were computed based on respondents to each question
*Non-respondents exceeded 7%(7.5%-29.2%)

Respondents from most DISCONTINUED programs felt that it was "essential" that co-op students be "supervised by teaching faculty from departments", resulting in a very high average rating for this factor for all groups combined (see Table 12, page 35). Other respondents tended to rate this program characteristic less highly. Despite the different opinions, we noted earlier that more than half the programs employed teaching faculty as supervisors and, furthermore, that no relation to growth was found.

Opinions varied about the importance of having specific full-time job developers, but did so in close relation to the likelihood that programs employed such people. Thus, those groups where specific job developers were most prevalent--FLUC/SAME, INCREASED, and DISCONTINUED--felt them to be most important.

A rating of "important but not essential to growth" was given to having "co-op operating centrally (rather than by department"), although STABLE respondents gave it a lower rating--19.4% of this group believed a central administration was actually "detrimental to growth". Previous data showed no difference among groups in the proportion of centrally-run programs, although this kind of organization was least likely to be characteristic of STABLE institutions.

Several other factors were rated between "not important" and "important but not essential". These included having co-op coordinators with faculty status, co-op program enrollments of 200+ students, alternating schooling and work format, and having students pay tuition while on their work placements. With the exception of co-op program size and growth status, the data presented above showed no significant relation to program growth.

The fact that a co-op program is "concentrated in a limited number of curricula" was found to be between "detrimental to growth" and " not important". Within each analytic group, however, there was considerable variation. The most frequent rating for the INCREASED, FLUC/SAME, and DECREASED programs was "detrimental"; among STABLE and DISCONTINUED respondents, it was "not important". In each group, sizable proportions of respondents felt wide curricular involvement was an "important but not essential" growth characteristic. In actuality, programs that grew in size were not too likely to grow in scope--i.e., in diversity of curricula involved.

To summarize, many programmatic variables were related to growth status, while several others were not. Respondents' opinions about which variables affect growth were generally consistent with actual differences among the analytic groups. First, we will summarize the co-op programs on those dimensions that did not discriminate among groups.

Overall, approximately three-quarters of all programs (all groups combined) first began a co-op program in the years between 1961-62 and 1974-75. About half scheduled co-op placements that were one semester or trimester in duration, while the other programs tended to employ a quarter system. The number of student placements varied among groups, and often varied within groups as well. About four out of 10 programs used an alternating mode; a slightly smaller percentage were parallel; the extended day schedule and other types of arrangements were used infrequently.

Most programs, irrespective of growth status, were administered centrally, employing between one to three different directors/deans since 1974-75. The academic rank held by the directors varied--full professorships were rare and many directors carried administrative titles only. Slightly more than half the programs used faculty from the academic departments as co-op student supervisors, and most programs reported little turnover in staff. As would be expected, in somewhat more than half the cases, co-op coordinators had faculty status.

Several of the variables that did distinguish among the growth categories involved the size and scope of co-op programs. To begin with, approximately one-third of the programs that had large increases in co-op enrollments from 1974-75 to 1981-82 reported large numbers of co-op students by 1981-82 (300+ students). In no other analytic group were large programs as prevalent; in fact, in each of the other groups, more than half the respondents reported co-op enrollments of 100 or fewer students.

However, co-op growth was not merely a case of larger programs getting larger. Almost one-third of the INCREASED programs also enrolled 100 or fewer students in 1981-82, and many large programs (in 1974-75) decreased in size substantially by 1981-82.

When the size of the co-op program was compared to the institutions' total undergraduate enrollment, it was found that more STABLE programs enrolled at least 75 percent of the student body. Proportionately fewer programs that had fluctuating enrollments of any kind and/or in any direction were schoolwide in scope.

Co-op involvement in all or most curricula--another indicator of scope--was typical of programs that decreased in size or remained stable, but not for those that increased, witnessed fluctuations, or were discontinued. Thus, extensive curricular involvement certainly is not necessary for growth, nor does it typically describe expanding programs.

On the other hand, a close match between co-op jobs and students' major area of study is an important component associated with growth: virtually all programs that grew or remained about the same size indicated they matched most jobs to students' majors; there were fewer schools in the DECREASED or DISCONTINUED groups that did so.

Most schools that discontinued co-op had offered non-additive credit for the experience, whereas this was not typical of any other group. Approximately half of the still-operating programs offer additive credit, but a sizable proportion of INCREASED programs do not creit the work placement at all.

Most of the INCREASED programs had full-time co-op directors/deans, in contrast to no more than half of the programs in the other growth categories. The co-op program was most likely to have experienced a change in the institution's organizational plan if it INCREASED or DECREASED in size. In addition, about three-quarters of still-operating co-op programs co-existed with large, comprehensive work-study programs, whereas work-study was not a significant emphasis in the schools in which co-op programs were DISCONTINUED.

Staffing differences were also found among programs in four groups. The work load of coordinators increased in growing programs and decreased in declining ones. Although the majority of programs did not employ specific job developers, people with these responsibilities were most usual in STABLE and INCREASED programs.

Questionnaire respondents felt that it was important to co-op's growth, if not essential, that co-op jobs be related to students' majors. Also rated as highly important was the availability of full-time director, continuity in co-op program leadership, and the granting of academic credit. With respect to this last issue, programs that discontinued co-op tended to rate its importance most highly, although thriving programs were less likely to offer additive credit.

EXTERNAL FUNDING VARIABLES

Many colleges and universities received special funds--from government or private sources--for cooperative education during the period 1974-75 through 1981-82. How these funds related to their growth will be explored in this section, as will practitioners' opinions about the importance of external funding.

Funds for Initiating a Co-op Program. Questionnaire respondents were asked whether their co-op program had special funding during its first year of operation, regardless of when that was (item #11). Approximately half or more of the schools did receive external support, predominantly Federal monies. The proportions receiving support from any and all external sources combined were: 78.3 percent, DISCONTINUED; 64.3 percent, DECREASED; 51.4 percent, INCREASED; and 50.0 percent of both STABLE and FLUC/SAME. These differences approached statistical significance, and indicate that DISCONTINUED and DECREASED programs were more likely than others to have had outside funding to initiate their co-op programs. Perhaps programs that initiate their co-op program before receiving an infusion of outside funds have a stronger commitant to the concept of cooperative education which translates into better prospects for long-term growth and longevity.

Federal Administration Grants. The largest single source of external support for cooperative education has been the administration grants awarded by the Office/Department of Education. Table 13 on page 40 summarizes, for each growth group, the number and size of awards granted during each of the eight years under investigation.

The data indicates that at least three-quarters of the schools with still-operating co-op programs received an administration grant in at least one of the eight years. INCREASED programs were most likely to have been awarded this type of grant, with 86.8 percent of the group having been recipients. In contrast, 46.2 percent of DISCONTINUED programs received administrative grants. (The other groups were quite similar to one another.) Thus, the receipt of such monies seems closely related to growth status, although it is not certain whether administrative grants stimulated growth.

TABLE 13

Percentage of Programs Receiving Federal Co-op Administration Awards During 1974-75 Through 1981-82, By Growth Category

(Data From Federal Listings; figures in Percentages)

Number of Years with Award:	% of Programs				
	DISCONTINUED (N=296)	DECREASED (N=182)	STABLE (N=42)	FLUC/SAME (N=67)	INCREASED (N=273)
None	53.8	28.6	28.6	23.9	13.2
1 or more:	46.2	71.4	71.4	76.1	86.8
1	15.5	19.8	28.6	11.9	8.8
2	25.0	24.7	28.6	20.9	19.8
3	2.4	11.5	11.8	16.5	18.7
4	2.0	8.8	2.4	11.9	24.4
5	1.0	5.5	-	14.9	12.5
6	0.3	1.1	-	-	2.6
7	-	-	-	-	-
8	-	-	-	-	-
Mean Years with Award[a]	$\bar{x}$ =1.9	$\bar{x}$ =2.4	$\bar{x}$ =1.8	$\bar{x}$ =3.0	$\bar{x}$ =3.2
Mean Total Dollars Awarded[a]	49,000	86,000	44,000	100,000	129,000

[a]Means calculated using only those programs having award for 1 or more years.

Included in Table 13 is the mean number of years institutions in each group received an administration grant; this average is based only on schools that received at least one award. Again, it is clear that INCREASED programs were different from the other growth groups, with the average number of years of support equal to 3.2. In fact, about 40 percent of INCREASED programs received awards for 4 or more years--a substantially higher proportion than that found for the other groups. The mean number of years of receipt of an administration grant was 3.0 for FLUC/SAME programs--also quite high--and 2.4 years for DECREASED programs. Interestingly, schools in the STABLE programs group averaged the fewest years, 1.8.

INCREASED programs received, on the average, the largest mean total dollar award ($129,000), and STABLE programs the least ($44,000). The rank order of the groups in terms of dollar amounts is identical to the order found for the mean number of years grants were awarded (see Table 13).

The low figures (mean years and total dollars) for the STABLE group is surprising and may reflect the classification problems we identified. An alternate hypothesis may be that programs that demonstrate little change in size are less likely to be recipients of such grants. While the data also lends itself to other interpretations, it is apparent that stability in program size can be maintained with relatively brief infusions of Federal funds and that, moreover, several years of such support does not protect programs from experiencing decreases in co-op enrollments.

Co-op administration awards were also examined for differences in the recency with which the last grant was received. These data are presented in Table 14, below.

TABLE 14

Proportion of Programs that Received Co-op Administration Awards Between 1974-75 and 1981-82, By Last Year Award Was Obtained, By Growth Category

(Data from Federal Listings; figures in Percentages)

Last Year of Funding:	% of Award Recipients				
	DISCONTINUED (N=137)	DECREASED (N=130)	STABLE (N=30)	FLUC/SAME (N=51)	INCREASED (N=237)
1974-75	26.3	16.2	36.6	9.8	5.1
1975-76	48.2	26.8	30.0	21.6	12.2
1976-77	8.8	6.2	10.0	5.9	3.8
1977-78	5.8	6.2	-	5.9	4.6
1978-79	5.1	13.1	6.7	19.6	13.9
1979-80	3.6	13.1	3.3	7.8	14.3
1980-81	2.2	11.5	6.7	17.6	18.2
1981-82	-	6.9	6.7	11.8	27.9
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

It can be seen that among schools in the DISCONTINUED group, about three-quarters received their last grant in 1974-75 or 1975-76. A similar proportion of STABLE group programs were last funded in 1976-77 or earlier. More recent funding was the rule for the other three groups, with INCREASED programs being exceptional in this regard. For more than 25 percent of the INCREASED group, the last administration grant was awarded in 1981-82, the last year studied. Some of these findings about funding recency are in the direction expected.

It is interesting that such a comparatively large percentage of INCREASED programs have so recently received administration grants. Since our classification rules considered co-op enrollment differences between the first and last year studied, it is possible that external support tends to have an immediate impact on enrollment. In other words, enrollments in some INCREASED schools may have risen during 1981-82 with the help of Federal administration funds. Other programs (i.e., schools in the other analytic groups), having last received funding at an earlier point in time, may have experienced the boosting effect on enrollments earlier. The fact that STABLE schools was the only group that did not show any marked variation lends some support to this assumption, although another explanation may be that increases in co-op programs' enrollments encourage schools to apply for--or help them win--Federal administration grants.

Federal Training, Demonstration, and Research Grants. The number of such grants is small, although the pattern of Federal training, demonstration, and research grant awards is interesting. To begin with, no school in the DISCONTINUED program group received any of these types of grants during the period 1974-75 to 1981-82.

Training grants were made to 6.0 percent of FLUC/SAME program schools, 3.7 percent of DECREASED, 2.3 percent of STABLE, and 1.8 percent of INCREASED.

Research awards were received by 3.0 percent of schools in the FLUC/SAME group, 2.2 percent of INCREASED, and 0.5 percent of DECREASED. No STABLE program school was awarded a research grant.

Demonstration grants were made to 3,0 percent of the schools in the FLUC/SAME group, 2.6 percent of INCREASED schools, and 1.6 percent of DECREASED schools. Again, no STABLE schools had received demonstration funds by 1981-82. Keeping in mind that the total number of these grants is very small, it is interesting that they do not seem to bear a discernable relation to growth, or to be associated with growth, as measured by changes in student enrollment figures.

Institutional Reports on Funding. Questionnaire respondents were asked to note, for each of the eight years, whether external funds were available from any source. Since Federal administration grants are the most usual source of external monies, we would expect their responses to be fairly similar to the findings reported above. For still operating programs, the proportions

reporting receipt of any external funding quite closely match the data described above, supplied to us by the government. Thus, based on self-reports, about three-fourths of the respondents in each of four groups reported receiving outside funds in at least one year, ranging from 60.1 percent of FLUC/SAME to 77.5 percent of INCREASED schools. However, whereas only 46.2 percent of DISCONTINUED schools were listed as having received Federal administration grants, 70.8 of these respondents said they received some form of funding. While some of the discrepancy may be due to a greater tendency for these programs to have received non-Federal funds, it is more likely that the DISCONTINUED questionnaire respondents were not well representative of all schools in the DISCONTINUED group.

Reported average number of years of support (based on programs with at least one year of support) are higher than the government listings, ranging from 3.5 years for DISCONTINUED and STABLE programs to 4.4 years for INCREASED programs. In this instance, STABLE respondents do not report the same low figures noted above.

As compared with Federal data, the questionnaire responses indicate that more programs in each category received outside funding in recent years. These differences may be attributable to the fact that the questionnaire considered all sources of funding, but the findings are more probably a result of greater interest in this study on the part of schools with more--and more recent--external support.

Importance of External Support. Questionnaire item #38 asked respondents how important to the growth of co-op was external seed money for a start-up year. Item #42 asked about the importance of external support during a program's first few years of operation. Except for the DISCONTINUED group, the average rating for both items was "important but not essential". For DISCONTINUED respondents, the ratings were much higher--approximately three-quarters of the people rated each factor as "essential to growth". Above we noted that DISCONTINUED (and DECREASED) programs, more so than growing ones, were likely to have received start-up funding. Despite the opinions of respondents, relying on external support for the initiation of a program may actually be detrimental to its long-term outlook.

To summarize, there were some differences in external funding that relate to co-op growth status. The data suggests that funding for the start of a co-op program may cause, in some instances, the initiation of activities without sufficient commitment on the part of the institution to carry them on. This is based on the finding that more DISCONTINUED and DECREASED schools than those in other categories received outside start-up funding.

About three-quarters of still-operating programs received at least one year of a Federal administration grant, in comparision to less than half of the DISCONTINUED programs. Thus, not only have Federal monies been widespread, but together with the other data, suggest that this type of support is conducive to vitality, particularly when first received after the co-op program has been initiated.

Programs that INCREASED in size were most likely to have received an administration grant, received more yearly grants, and more recent grants that programs comprising the other analytic groups. Conversely, DISCONTINUED programs were not only less likely to have received such grants, but if they did, were awarded them for relatively fewer years. Differences among the still-operating programs were less clear-cut, although STABLE schools received the least dollars in total and for the smallest number of years. No DISCONTINUED program received Federal money for training, or research, or to start a demonstration program.

Overall, practitioners believed external support for the start-up year of operation and for the subsequent formative years was important but not essential to co-op's growth. DISCONTINUED respondents felt it to be an essential factor.

COMMUNITY VARIABLES

The questionnaire contained items of two types pertaining to "community" variables: first, the respondent was asked for descriptive data and, second, to rate the importance of select factors to co-op program growth.

Community Characteristics. Table 15 on the following page (45) presents summary data for each analytic group on each of several items. Of note is the fact that no significant statistical relationships were obtained between growth status and any "community" characteristic.

TABLE 15

Community Characteristics During Most Operational Years from 1974-75 to 1981-82, By Growth Category

(Based on Questionnaire Responses; figures in Percentages)

(Item #) Community Characteristics:	% Indicating Each Option				
	DISCONTINUED (N=24)	DECREASED (N=44)	STABLE (N=36)	FLUC/SAME (N=48)	INCREASED (N=160)
(20) Approximate number of institutions in close proximity competing for co-op jobs:					
None	21.7	23.8	11.4	14.9	8.9
One or two	34.8	21.4	37.1	29.8	33.8
Three or four	26.1	33.4	28.6	29.8	33.1
Five or more	17.4	20.4	22.9	25.5	24.2
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(19) General level of unemployment in business community from which co-op placements are developed, compared to national average:					
Dramatically lower unemployment	13.0	2.4	12.1	10.6	7.7
Somewhat lower unemployment	26.1	43.9	51.5	36.2	33.3
About same level as nationally	39.2	26.8	27.3	23.4	31.5
Somewhat higher unemployment	8.7	19.6	6.1	23.4	16.0
Dramatically higher unemployment	13.0	7.3	3.0	6.4	11.5
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%
(44) Student willing to take co-op jobs outside of commuting distance from college:					
No	68.8	60.0	60.0	48.9	54.6
Yes	31.2	40.0	40.0	51.1	45.4
TOTAL	100.0% *	100.0% *	100.0%*	100.0%*	100.0%*
(52) Employer representatives serve on co-op advisory board:					
No	46.7	62.5	55.6	47.2	53.4
Yes	53.3	37.5	44.4	52.8	46.6
TOTAL	100.0%*	100.0%*	100.0%*	100.0%*	100.0%*

*Non-respondents exceeded 7%(8.3%-37.5%)

When asked for the approximate number of institutions in close geographic proximity that offered co-op, at least half the respondents in each group reported either "one or two" or "three or four". Sizable proportions in all groups noted that there were more than four such neighboring institutions, and almost one-fourth of DISCONTINUED and DECREASED programs noted "none". Thus, co-op institutions (particularly STABLE and INCREASING ones) seem to be able to co-exist in near proximity to potentially competing co-op institutions with no apparent effect on vitality.

The general level of unemployment in the business community from which co-op placements were developed, compared to the national average, is also presented in Table 15. For still-operating programs, the typical response was that their community experienced somewhat lower unemployment. This was true for 51.5 percent of STABLE and 33.3 percent of INCREASED respondents. DISCONTINUED programs (26.1%) also tended to indicate a somewhat lower local unemployment rate, although more of the respondents in this group report local unemployment or a par with national figures (39.2%). The differences among the groups was not statistically significant.

Table 15 also shows that between one-third to one-half of the respondents in each growth group had students who were willing to be placed in co-op jobs outside of commuting distance from the school. Thus, while students in DISCONTINUED programs were more likely to be described as not willing to accept such assignments, differences among groups on this dimension were not found to be significant.

Again, no significant relationship obtained between growth status and the likelihood of employer representatives serving on a school's co-op advisory board. One-third to one-half of the respondents in each category reported having boards that included employer representatives (see Table 15).

Importance of Community Variables. The respondents' average ratings of the importance of select community variables to the growth of co-op are presented in Table 16, below. On the average, having employer advisors was rated slightly

TABLE 16

Questionnaire Respondents; Average Rating of Community Characteristics' Importance to the Growth of a Co-op Program, By Growth Category

(Item #) Community Characteristics:	Average Rating[a]					
	DISCONTINUED (N=24)	DECREASED (N=44)	STABLE (N=36)	FLUC/SAME (N=48)	INCREASED (N=160)	ALL RESPONDENTS (N=312)
(52)Employer representatives serve on co-op advisory board	3.16*	2.98*	3.06*	3.42	3.07	3.15*
(44)Students willing to take co-op jobs outside of commuting distance to college	2.67*	2.71	2.93*	3.21	2.94	2.93
(45)Few other co-op institutions in geographic area	2.33*	2.63*	2.23*	2.50*	2.59*	2.52*
(43)High level of unemployment in community	1.78*	1.64*	1.32*	1.50*	1.39*	1.46*

[a]Scale: 1=detrimental to growth; 2=not important to growth; 3=important, not essential to growth; 4=essential to growth. Averages were computed based on respondents to each question.

*Non-respondents exceeded 7%.

above "important but not essential to growth." The differences among groups are in the same direction as the likelihood that they used them.

Whether or not students were willing to work outside of commuting distance of the institution was rated as "important but not essential" and, again, groups where students were more likely to do so rated this factor slightly higher. Respondents considered having few neighboring co-op institutions to be between "important" and "important but not essential", and most tended to believe that a high level of community unemployment would be "detrimental" to cooperative education.

To summarize, the community characteristics that we investigated did not distinguish between co-op programs in the different growth categories. Most schools have at least one or two other co-op colleges in close proximity, and most operated in communities with umemployment levels at or below the national average. While high levels of unemployment were seen as a threat to co-op programs, other factors were believed to be important but not essential to its growth.

SUMMARY AND CONCLUSIONS

This study, conducted during 1982-83 by the Center for Advanced Study in Education/ Institute for Research and Development in Occupational Education (Graduate School and University Center, City University of New York) with a Cooperative Education Program grant from the U.S. Department of Education, considered cooperative education programs that were in operation during the 1974-75 academic year in colleges and universities in the United States. It examined their eight-year history from 1974-75 to 1981-82, and their status in the most recent year. One purpose was to describe the current conditions of these programs: to determine whether they remained in existence and, if so, what kind of growth in size they experienced. A second major goal was to identify variables that relate to the maintenance and growth of programs.

A total of 908 colleges and universities were found that offered cooperative education programs in 1974-75. Data was gathered about these programs from three sources. First, co-op directories, updated each year, provided some information pertaining to programmatic characteristics. Second, a study-specific questionnaire was designed to tap data on institutional, programmatic, funding, and community variables, andwas administered to all co-op schools. Lastly, government records provided additional information about Federal co-op grant recipients.

The directories and Federal listings provided data on 860 programs, or about 95 percent of those in the population. Completed questionnaires were received from 312 schools, about 34 percent of the 908 that offered co-op in 1974-75. Co-op programs in the directories were grouped into five distinct growth categories based on changes in reported enrollment figures. In the analysis of questionnaire data, self-assessments of growth were used to classify programs. Although there was good agreement, not

all programs were equally likely to have responded to the questionnaire. Programs that grew over the period of study were overrepresented among respondents, and discontinued programs were severely underrepresented. Respondents were also a somewhat biased subset of all 1974-75 programs in that they tended to report higher average co-op enrollments (particularly programs that maintained stability), and to have received Federal funds more recently. However on most other measures there was fairly good agreement where more than one data source was available.

The results indicated that 34.4 percent of the programs that had been operating in 1974-75 had been discontinued by 1981-82. Of the remainder, 31.7 percent not only continued their co-op program, but substantially increased enrollments (increases or decreases were defined as 20% or 10 students, whichever was greater). Somewhat less than one-quater of the programs, 21.2 percent, also continued operating, but with decreased enrollments when 1981-82 figures were compared with 1974-75. Very few programs, 7.8 percent, fluctuated in size during the eight-year period, but remained at generally the same level. Fewer programs still, 4.9 percent, maintained stable enrollments, with virtually no year-to-year fluctuations.

Programs in these five growth groups--discontinued, increased, decreased, fluctuating, and stable--were compared with respect to a large number of variables. On many dimensions, including all the community variables investigated, there were no significant differences among groups. Several other characteristics, however, did appear to relate to growth status. First, we will describe co-op programs in term of the variables they had in common (i.e., the non-distinguishing ones). This will be followed by a summary of variables on which the groups of programs differed.

Approximately three-quaters of the schools first started a co-op program between 1961-62 and 1974-75 About one-third to one-half of the schools in each group were two-year colleges; the remainder were four-year institutions. Most were publically controlled, with little change in top-level administrators. A majority of students in the co-op colleges were enrolled in professional curricula, and this proportion tended to increase over the study period.

The greatest proportion of programs had co-op placements of one semester or trimester. The number of such placements, however, tended to vary. Considering all programs irrespective of growth category, about

40 percent offered co-op in an alternating format, smaller proportions used a parallel format, and the remainder employed a variety of other scheduling modes.

Most programs overall were administered centrally (rather than by department). Turnover among directors during the eight-year period was low, with programs reporting between one to three different directors during the eight year period. Directors held different academic ranks, and many had administrative titles. Most programs reported little turnover in staff, probably a reflection of the finding that more than half the programs used department faculty to supervise students. As would be expected in these cases, the majority of co-op coordinators had faculty status.

Most programs, growth status not withstanding, operated in close geographic proximity to other co-op schools and in communities were the unemployment level was at or below the national average. No more than half of the programs in any group noted that their students were willing to take co-op jobs outside of commuting distance from the college. Employers were members of co-op advisory groups in half or fewer programs.

Several institutional characteristics were found to relate to co-op growth. Size of the college was one such factor. Programs that had increased co-op enrollments were most usual in institutions with very large undergraduate student populations (6000+), whereas discontinued programs and those that decreased in size were typically in small colleges (3000 or fewer students). In fact, about 43 percent of decreasing co-op programs were in institutions enrolling a total 1500 students or fewer. Not only then was co-op likely to flourish in large colleges and universities, but expecially in ones that had generally increasing undergraduate enrollments. Conversely, decreasing college enrollments related to decreasing co-op enrollments.

While most programs in all groups reported that the top administration viewed co-op positively, this was less frequently reported by schools with decreasing co-op numbers.

Comparing the four still-operating groups with the discontinued group, there were additional institutional differences. Still-operating programs were more likely to be found in urban than in suburban or rural settings; the greatest proportion of discontinued programs were in rural institutions. Interestingly, more of these programs also reported that, during the period under study, the institution underwent a major revision in its educational goals.

Considering programmatic variables, increased programs had relatively large co-op enrollments (300 or more by 1981-82). This was the case for about one-third of the programs that grew in size from 1974-75 to 1981-82. However, growth was not always a case of large programs getting larger. Many programs which had enrolled 300+ co-op students in 1974-75 had decreased in size substantially by 1981-82, while about one-third of increased programs had 100 or fewer co-op students in the last year studied. Looking at size of co-op program in relation to undergraduate enrollment, while most programs in all categories involved 10 percent or fewer of the institution's undergraduates, a sizable proportion of programs that maintained stable co-op enrollments (about 20%) were nearly college-wide in scope.

Having co-op permeate all or most curricula was typical only of programs that remained stable or decreased in size. Thus, widespread curricular involvement is not necessary to growth and may, in fact, hamper it. In contrast, however, virtually all programs that grew or remained about the same size reported that almost all co-op placements were related to students' programs of study. This was generally true of programs in the other groups as well, but to a lesser extent.

Most discontinued programs had offered non-additive credit for the co-op experience--that is, credit that could replace classroom credits in the fulfillment of graduation requirements. This was not generally so of programs in the other growth groups, most of whom awarded only additive credit. This difference, together with the finding that about 20 percent of increasing programs awarded no credit at all for co-op, suggests that credit is not crucial to the maintainance or growth of a cooperative education program.

The majority of programs that increased in size had full-time directors/deans, whereas fewer of the programs in the other groups did. This suggests that either full-time directors positively affect program expansion or that growing programs are more likely to seek full-time leadership. Also of interest was the fact that programs that underwent any change in size, decreases or increases, were more likely to have operated within a changed university structure--that is, more often experienced a change in the office to which the co-op director reported.

Discontinued programs tended to operate in schools where a large, comprehensive work-study program was <u>not</u> a major offering, in sharp contrast to still-operating programs, almost three-quarters of which co-existed with work-study programs. Work-study programs certainly do not seem to detract from the vitality of a co-op program.

Staffing patterns also distinguished among co-op programs in the various groups. Growing programs tended to increase the coordinators' student load, while in decreasing programs, coordinators' load often decreased. In addition, while it was generally found that co-op programs tended not to employ specific persons to undertake job development, significantly more programs that either maintained stable co-op enrollments or grew did so. It would appear that special job developers are not critical to the success of a co-op program, but serve to encourage maintenance and expansion or are more likely to be needed as a program grows.

Several differences were noted among groups in the attainment of external funding for co-op. About half or slightly more of the programs in each growth category reported having received some type of support for their start-up year, although this was so for proportionately more of discontinued programs and for those that decreased in size. One possible expanation is that some programs may initiate co-op because of the availability of such funding but without sufficient institutional commitment to carry it on.

About three-quarters of all still-operating co-op programs received a Federal co-op administration grant for at least one of the years investigated. In comparison, less than half of all discontinued programs had support of this type. Programs that increased in size were most likely of all to have had Federal funds for an administrative grant. Moreover, growing programs that had Federal funds had them for more years (3.2 years on the average) and in more recent years, than the programs in the other growth groups. The relative recency of funding, coupled with the fact that declining programs received funding in their early years, suggests that the infusion of external support has an immediate positive boost on enrollment. Alternatively, these data may simply reflect the fact that increases in enrollment encourage programs to apply for (or help them obtain) Federal grants.

Questionnaire respondents were asked to rate many of these variables in terms of how important they believed them to be in the growth of co-op programs. Their ratings generally coincided with the differences reported above. For all groups combined, four variables were rated very highly (3.45 or higher, where 3 = "important but not essential to growth," and 4 = "essential to growth"). These were that (1) top level administration holds a positive view of co-op's value for students, (2) there is stability in institutional goals and objectives, (3) co-op jobs related to students' majors, and (4) there is a full-time director/dean of co-op. The presence of these factors was indeed found to relate positively to the growth of co-op between 1974-75 and 1981-82.

The availability of external support for co-op's start-up years and first few years was considered by all repsondents to be important but not essential to co-op growth. This is a fair assessment given the fact that most programs in all groups (including discontinued or decreasing programs) received some type of funding. We found, however, that more growing programs received support over longer time periods.

Respondents had very differing opinions about the effect on growth of limiting co-op to a limited number of curricula. Many felt that this was detrimental to growth, although it was found that most increasing programs did, in fact, offer co-op in relatively few curricula.

In conclusion, co-op programs that were in operation during 1974-75 experienced a variety of growth patterns by 1981-82. Approximately one-third had been disbanded at some point within this eight-year period. Of those that are still-operational, about half evidenced increases in co-op enrollment, about one-third decreased in size, and only a few remained stable or underwent off-setting annual fluctuations.

Many institutional, programmatic, and funding variables related to the maintenance and/or growth of co-op programs:

Typically, growth was more common in institutions of large size and in urban settings. A postive view of co-op's value for students seems to be critical for program success, as is the match of co-op jobs to students' major areas of study. Stability in institutional goals appeared to affect the maintenance of co-op programs, and having a full-time director may encourage the growth of programs.

Widespread curricular involvement in co-op apparently is not necessary for programs to succeed, and may, in fact, hamper growth. Moreover, co-op programs that continued to operate often did so in institutions with large work-study programs, with no apparent negative impact.

Many programs that discontinued co-op had offered non-additive graduation credits for co-op work and felt that it was a critical component. In fact, however, viable programs were unlikely to offer non-additive credit, and many offered no credit at all. Thus, co-op can thrive for reasons other than the offer of credits for graduation.

Most programs, regardless of growth, existed in communities where the unemployment rate was about the same as or less than the national average.

Because of this, the effect of high unemployment on program success cannot be assessed. However, the opinion of the co-op practitioner is that high unemployment would be detrimental to their operation.

Although half or more of all programs received external funding during their start-up year, this type of support was actually more common among programs that decreased or were discontinued. Start-up funds, therefore, are no guarantee of success and may stimulate some institutions to initiate co-op programs without sufficient planning.

Most co-op programs that were still operating in 1981-82, even those where enrollments decreased, had received external funding for at least one year between 1974-75 and 1981-82. Programs with increasing enrollments received funding for more years and more recent years. These data suggest that external support does not ensure growth, but it may have a positive impact. It is possible that this positive effect may be of relatively short duration.

APPENDIX A

Survey Questionnaire.....A1

City University of New York Graduate Center
Center for Advanced Study in Education

COOPERATIVE EDUCATION PROGRAM STABILITY

In these times of rising institutional costs and diminishing governmental assistance, it is increasingly important to understand the characteristics of effective educational strategies. To this end, this questionnaire is designed to identify and assess the relative importance of various factors presumed to correlate with the stability of cooperative education programs, irrespective of their source of support.

Acknowledgedly a long questionnaire, we appreciate the time and care required to complete it. The results, which will be sent to you, should help.

GENERAL INSTITUTIONAL INFORMATION

1. Name of institution: _____

2. Highest degree awarded: ☐ associate ☐ AB/BS ☐ Masters ☐ doctorate

3. Type of institution: ☐ public ☐ private

4. Setting: ☐ urban ☐ suburban ☐ rural

5. Approximate undergraduate enrollment for the 1981-82 academic year:
   ☐ 1,500 or fewer ☐ 3,001 to 4,500 ☐ more than 6,000
   ☐ 1,501 to 3,000 ☐ 4,500 to 6,000

6. From 1974-75 to 1981-82, what has been the overall trend in undergraduate enrollments?
   ☐ decreased somewhat ☐ fluctuated, but remained same overall
   ☐ decreased dramatically ☐ increased somewhat
   ☐ remained stable ☐ increased dramatically

7. During 1981-82, what proportion of undergraduates were in <u>professional</u> as opposed to liberal arts curricula? (Consider as professional, vocational programs, applied arts, agriculture, business, education, engineering, health professios, computer science.)
   ☐ 25% or fewer ☐ 26-50% ☐ 51-75% ☐ 76% or more

8. Between 1974-75 and 1981-82, has the proportion of undergraduates enrolled in professional curricula:
   ☐ decreased? ☐ remained about the same? ☐ increased?

9. Between 1974-75 and 1981-82, had there been a change in the institution's top administration? ☐ No ☐ Yes; if yes, please describe briefly, indicating the approximate school year(s): _____

_____

10. Between 1974-75 and 1981-82, has there been a major revision in the institution's goals, structure, or approach to education? ☐ No ☐ Yes; if yes, please describe the changes from what to what, indicating the approximate school year(s):

_____

_____

COOPERATIVE EDUCATION HISTORY

11. In what academic year did co-op begin at your institution?

☐ prior to 1950-51 ☐ between 1961-62 & 1974-75 ☐ Not sure

☐ between 1951-52 & 1960-61 ☐ between 1975-76 & 1982-83

12. For which years between 1974-75 and now (1982-83) has cooperative education been offered? (Check as many years as apply)

☐ 1974-75 ☐ 1976-77 ☐ 1978-79 ☐ 1980-81 ☐ 1982-83

☐ 1975-76 ☐ 1977-78 ☐ 1979-80 ☐ 1981-82

13. Was the total approximate co-op enrollment during the most recent year indicated in Question 12? _____

14. Co-op enrollments between 1974-75 and 1981-82 <u>averaged</u>

☐ less than 10% of undergraduate enrollments

☐ about 25%

☐ More than one-quarter but less than half of undergraduate enrollments

☐ Half to 75%

☐ More than 75% of undergraduate enrollments.

15. For the <u>first</u> year of its operation, did the co-op program receive special funding?

☐ Yes, from the government ☐ No special funds, supported by the institution

☐ Yes, from private sources ☐ Other; please specify: _____

16. If outside support was received, in which years were these speical, outside funds available? (Check as many as apply.)

☐ 1974-75 ☐ 1976-77 ☐ 1978-79 ☐ 1980-81 ☐ 1982-83

☐ 1975-76 ☐ 1977-78 ☐ 1979-80 ☐ 1981-82

17. Between 1974-75 and 1981-82, have the co-op requirements remained:

☐ mandatory in all curricula involved in the program ☐ entirely optional

☐ mandatory in some curricula involved in the program ☐ other; there was a change. Please describe the change, indicating the year: _____

_____

18. Between 1974-75 and 1981-82, has the predominant mode for co-op placement been:

☐ alternating ☐ extended day

☐ parallel ☐ other; please specify: _____

19. Between 1974-75 and 1981-82, for their co-op work assignment(s) have students received:

☐ academic credit toward degree requirements?

☐ add-on credit?

☐ no academic credit?

☐ other; please describe: _____

20. Between 1974-75 and 1981-82, has there been a change in the scope of the co-op program?

☐ Yes, increased enrollments; which year? _____

☐ Yes, decreased enrollments; which year? _____

☐ No, fairly stable enrollments

and/or

☐ expanded number of curricula; which year? _____

☐ reduced number of curricula; which year? _____

☐ no change in number of curricula involved

21. Generally between 1974-75 and 1981-82 how did the level of unemployment in the business community from which your co-op jobs are developed compare with the national average?

☐ somewhat lower local unemployment ☐ unemployment about the same locally as nationally ☐ dramatically higher local unemployment

☐ dramatically lower local unemployment ☐ somewhat higher local unemployment

22. To the best of your ability to estimate, in what year(s) did the level of local unemployment change dramatically? _____

23. About how many institutions in close proximity to yours compete with your co-op program for jobs for co-op students?

☐ none ☐ three to four

☐ one or two ☐ five or more

CO-OP PROGRAM STAFFING

24. Between the years 1974-75 and 1981-82, how many different persons served as Director/Dean of the institution's co-op program?

☐ one ☐ two ☐ three ☐ four or more

25. Generally during the 1974-75 to 1981-82 period, what academic rank was held by the director(s)/dean(s) of the co-op program?

☐ Full professor ☐ Instructor

☐ Associate professor ☐ No faculty rank

☐ Assistant professor ☐ other; please specify: _____

26. Generally during the 1974-75 to 1981-82 period, was the director/dean of co-op

☐ a full-time position? ☐ a part-time position?

27. In the most recent year your institution offered cooperative education, organizationally to whom did the director/dean of co-op report? Specify title:

_____

28. Between 1974-75 and 1981-82 has there been a change in the institution's organizational structure that affected the office/division/department responsible for administering the co-op program?

☐ No ☐ Yes; if yes, in what year (approximate) did this occur? _____

Please briefly describe the change for the co-op program: _____

_____

29. Generally between 1974-75 to 1981-82 was the co-op program administered:

☐ centrally ☐ other; please describe: _____

☐ by department _____

30. What, if any, has been the change in coordinator's load during the period 1974-75? Number students supervised in: _____

31. Between 1974-75 and 1981-82 did co-op coordinators have:

☐ faculty status ☐ other; please describe: _____

☐ administrative titles _____

CO-OP PROGRAM DEVELOPMENT

Please read the following questions in the form of statements, number 32 to 56. First, indicate for each whether it was true (YES) or not true (NO) of your institution for all or most of the years from 1974-75 through 1981-82. Then, assume each statement was true for your institution or one similar to yours, and indicate your opinion of how important it would be in the [growth] of a cooperative education program.

	TRUE for ALL/ Most years		ASSUME TRUE, how important for [growth]?			
	Mostly NO	Mostly YES	Detrimental	Not Important	Important Not Essential	Essential
32. Stable student enrollment in institution generally						
33. No significant change in top-level administration						
34. No significant change in institutional goals or objectives						

	TRUE for ALL/ Most years		ASSUME TRUE, how important for [growth]?			
	Mostly NO	Mostly YES	Detrimental	Not Important	Important Not Essential	Essential
35. Co-op program supported by top administration						
36. Full-time director/dean of co-op program						
37. Continuity in co-op program leadership						
38. Little turnover in co-op staff						
39. Students on work assignments pay tuition						
40. Academic credit for graduation requirements awareded for co-op work						
41. Federal/state/private seed money for co-op program's start-up year						
42. Instititutional support for co-op program						
43. Departmental faculty supervise student's co-op work assignment						
44. Co-op coordinators have faculty status						
45. Job development done by student coordinators						
46. Government or private funding supports the first few years of co-op program operation						
47. A high level of employment in the community						
48. Students willing to take co-op jobs outside of community distance						
49. Few other co-op institutions in this geographical area						
50. The co-op program enrolls 200 or more students						
51. The institution has a large, comprehensive work-study program						
52. Student tuition helps support the co-op program						
53. The co-op program is concentrated in a limited number of curricula						

	TRUE for ALL/ Most years		ASSUME TRUE, how important for [growth]?			
	Mostly NO	Mostly YES	Detrimental	Not Important	Important Not Essential	Essential
54. Most co-op jobs relate to students' major area of study						
55. Alternating co-op/schooling mode						
56. Employer representatives serve on co-op advisory board						

57. In your opinion, what three factors are (or would be) most important in the growth of co-op education at your institution?

58. In your opinion, what three factors are (or would be) most important in the decline of cooperative education at your institution?

Thank you for completing this questionnaire.

Name of person completing questionnaire:

_____

Title: _____

Address: _____

_____

Phone #: _____